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An Address.¹

By J. P. MAJOR, C.B.E., M.D.,
Melbourne.

IN the preparation of this address I have thought it might be of some interest to refer briefly to the earlier organizations of the profession in the history of the colony of Victoria. This has involved much reading of early journals, which has not been at all irksome, but quite the reverse; these bound volumes are very full of interest, both as a record of scientific work and beliefs and as a source of much amusement at times, when one reads of some of the happenings, quarrels *et cetera* in and outside the medical world of those early days in Victoria. Without further acknowledgement I would state

¹ Read at a meeting of the Victorian Branch of the British Medical Association on June 7, 1939.

that some of the sentences in the address are almost, if not quite, literally extracted from these records.

It would appear from the *Intercolonial Medical Journal* of January, 1906, that the first attempt at organization took place in 1846, when several medical men in Melbourne joined together for the purpose of procuring medical journals from Europe and designated their union the Port Phillip Medical Association. Its members met at each other's homes; occasionally papers were read, but apparently the convivial element predominated. This association dissolved on November 20, 1851, and there was no medical society in Melbourne until the formation of the Victoria Medical Association in May, 1852. Two years later, according to the minutes of the Victoria Medical Society of July 18, 1855, the Medico-Chirurgical Society of Victoria came into existence on June 6, 1854, as a rival body, and on July 18, 1855, following a joint meeting of members of these two bodies at the Melbourne Hospital,

amalgamation took place, the new society being designated "The Victoria Medical Society". This name was changed to "The Medical Society of Victoria" in 1856, and has remained unaltered to this day, though an attempt in 1860 to change it to "The Faculty of Medicine" was defeated only by the casting vote of the chairman, Dr. Tracy.

It will be seen, therefore, that this society, of which we are all members, has been in existence for some eighty-three years, and just as some of our members participated in the hundredth annual meeting of the British Medical Association at Worcester and London in 1932, so, in a relatively short space of time, may some of those present this evening be celebrating the hundredth birthday of our society.

In 1869 another society, called the Medical Association of Victoria, was formed. Its publication, *The Australian Medical Gazette*, appeared regularly; but as the objects of this body were chiefly personal, it and its journal lasted only for four years, dying of inanition.

For about twenty-two years our society had no fixed home. At different times its members met at the Mechanics' Institute, at the board room of the Melbourne Hospital, at the hall of the Royal Society in Victoria Street, and in a room above the shop of Mr. Ogg, pharmaceutical chemist, of 117, Collins Street. Similarly, the library had varying abodes—for example, the Mechanics' Institute, a bookseller's shop in Bourke Street, the back room of a dispensary in Collins Street, the hall of the Royal Society, Mr. Ogg's shop, and at one period the bedroom of the Melbourne Hospital gatekeeper.

In 1859 about half an acre of ground at the corner of Drummond Street and Victoria Street was granted by the Government to the society. As in the following six years no building was erected the grant was withdrawn. In 1877 the site of our present hall was found by Dr. Bowen to be unalienated, and after much negotiation it was gazetted as reserved for the Medical Society, and the original hall was erected in that same year. The first meeting held in this hall was the annual meeting of the society on Wednesday, January 9, 1878, Dr. T. L. McMillan, the President, being in the chair (*Australian Medical Journal*, July, 1878). One week later the opening of the hall was celebrated by a supper; the minutes stated that this was provided by Mr. Hoelskin and was not remarkable for its excellence, the wines being for the most part very inferior. One of the toasts was that of the medical school of the university, proposed by Dr. Jamieson. Alluding to the increasing number of medical students, now between fifty and sixty, he stated that the increase reminded him of Abernethy's farewell to his class on one occasion, when he said: "God help you, gentlemen, for I don't know what you are all to do." It is obvious, therefore, that when similar fears have been expressed in more recent years, no new problem, if one be really justified in so terming it, has arisen. Indeed, it is of very great interest to note that many matters

which at times in our day arouse discussion are quite old. For example, an editorial article in the journal of April, 1878, begins thus:

There is not much left for the general practitioner to do in these days of specialism; at least, there is not much left that the public think he can do. Every organ of the body is appropriated by those who give their attention to regional diseases, so that the general practitioner is looked upon as a pathological poacher if he extends his treatment beyond catarrh, colic or fever.

So also do we find that the increased demand on honorary medical officers at the hospitals for service to people regarded by the profession as not coming legitimately within the scope of charity, the conditions of medical club practice, and many other matters that give us food for thought were more or less burning questions in those days. However, I have digressed, although I may repeat the offence later to prevent this address becoming a mere record of historical medico-political facts.

The possession of property required the appointment of trustees, and the rules of the society accordingly were altered to meet this legal requirement. Three trustees were appointed and became *ex officio* members of the council, a condition which necessarily attains to this day.

The Australian Medical Journal was its official organ, and apparently came into being in the first year of the society's existence. It remained so until the year 1895, when the society agreed to the amalgamation of the journal with *The Intercolonial Quarterly Journal of Medicine and Surgery*, the new journal to be known as *The Intercolonial Medical Journal of Australasia*, and to continue as the society's official organ, Messrs. Stilwell and Company remaining as publishers. In 1910 the journal reverted to its original designation of *The Australian Medical Journal*, the reasons given being that the word "colony" had ceased to be applicable to the territorial units of the Commonwealth and the term "Australasian" had no administrative existence.

In April, 1879, the journal stated that a gentleman lately arrived from England had brought with him authority to establish in Melbourne a branch of the British Medical Association, and in the October issue it was announced that this Branch had just been established in Melbourne, with Mr. Gilbee as President, Dr. Cutts as Vice-President, Dr. Graham treasurer, Dr. Henry secretary, and Dr. Nield, Dr. MacMillan, Dr. Jamieson, Dr. Browning, Dr. Morrison and Mr. Rudall as members of council. The first Branch meeting was held in the Athenæum on November 26, 1879, and about twenty members were present. It would appear that the Branch came into being with at least some measure of approval and goodwill from the society; but this did not last long. Having no journal of its own, the Branch proceedings, with names of speakers giving papers and participating in discussions, were handed to the daily Press for publication. The editor of the journal expressed his willingness to publish Branch papers, but he and others strongly resented the

material for publication being presented to him in the form of cuttings from the lay Press, and refused to accept them. The Branch gradually grew in importance, although the society was apparently always the more prosperous and influential body and had much the larger membership. In addition, the latter had the advantage of possessing its own home and official organ. The places of meeting of the Branch varied from time to time; but in 1900 very serious trouble arose over an ethical matter, and after a discussion at a meeting of members many very highly esteemed members of the council and of the Branch resigned their membership. From that date until the amalgamation with the society in 1906 I gather from various records that the Branch did little more than exist. That its membership roll was small in 1906 tends to be borne out by the statement that at the time of the union there were 342 members of the society, and at the first annual meeting of the combined bodies the members totalled 395.

This union was necessarily preceded by prolonged negotiation, and on the part of the society by much consideration as to its legal position as the possessor of this site; but the recognition by all that union was strength spurred the accredited representatives to overcome all the difficulties in the way of union, and eventually success crowned their efforts.

On December 19, 1906, the final certificates cementing the association of the two societies were signed in our hall by the two presidents, Mr. M. U. O'Sullivan for the Medical Society of Victoria, and Dr. G. Cuscaden for the Melbourne and Victorian Branch of the British Medical Association. The annual meeting of each body was held separately in the hall on January 4, 1907; in each case the members of the other body were present as visitors, and after these meetings all present met as members of the Melbourne and Victorian Branch of the British Medical Association and elected Professor H. B. Allen unopposed as the first president and our Dr. Mollison as the first treasurer, also unopposed. It would take too long to refer to all the negotiations that took place. Briefly, legal advice was to the effect that the Medical Society had to preserve a substantive life with its own meetings, minutes and subscription, as otherwise the grant of land for the hall would be endangered; that it was unwise to apply for any alteration of the deed of grant; and further, that other action deemed necessary should be by alteration of the rules of Branch and society and not by deed. New codes of rules were prepared and adopted; they preserved in the above ways the separate life of the Medical Society, with subscription to the Branch and subscription to the society, but with identity of members, officers, policy and administration.

The trustees of the society appointed by the Governor-in-Council remained in charge of the land, buildings, library *et cetera*, and were accepted as the trustees of the Branch. As a pledge of permanence it was resolved that, while ordinary rules

might be altered by a majority of members at a special meeting, certain rules (relating to trustees, unity of membership, and to community of meetings, elections and other actions) should not be altered except by resolution of a two-thirds majority at a special meeting confirmed by a similar majority on referendum.

The then journal of the society, *The Intercolonial Medical Journal*, was provisionally made the organ of the Branch and society. From that date there has been no real setback to the progress of the Branch. For many years the great majority, over 90%, of the practising members of the profession have been members, so that without doubt it is the body representing the profession in Victoria. For many years before this union the need for more collaboration between various Branches in Australia and that in New Zealand had been stressed, and it was thought that this need could be met by the foundation of an Australasian medical journal. I believe it may be truly said that this desire, and the subsequent difficulties met with in the contrivance thereof, was the germ of the Federal Committee of the British Medical Association in Australia.

The desirability of founding such a journal was resolved on at the Intercolonial Medical Congress held at Sydney in 1892. Again, at the congress in Dunedin in 1896, it was proposed to amalgamate *The Australasian Medical Gazette*, owned by the New South Wales Branch, and the official organ of all Branches in Australia except the Victorian, *The Intercolonial Medical Journal of Australia*, which was the official organ of the Medical Society of Victoria, and *The New Zealand Medical Journal*.

Opposition to the fusion of the two Australian journals won the day. To overcome the difficulties it was even proposed to form an Australian medical association; but the opposition to this, as well as to a similar proposal in 1902, was far too strong.

It was obvious that discussions on this and other problems at congress meetings ended in talk. Some machinery was necessary whereby certain community of interests of the individual Branches could be implemented and safeguarded, and so a plan for the formation of a Federal Committee was evolved. The plan, with rules defining its powers and procedures, was sanctioned by the Council of the Association, and the committee was established in 1912.

In 1913, as the result of negotiations between the Federal Committee and the two Branches, Victoria and New South Wales, who owned the existing journals, the Australasian Medical Publishing Company, Limited, came into existence, with an arrangement by which this company acquired the journals of these Branches.

The company's constitution is simple and there are no shares. Each Branch in Australia has the right to nominate three members, and one of these members from each Branch is a director. The money necessary to defray initial expenses was obtained by the issue of debentures to the members of the

several Branches, a contract for printing was let to Shipping Newspapers, Limited, and the first issue of our journal, *THE MEDICAL JOURNAL OF AUSTRALIA*, appeared on July 4, 1914. One month later war was declared; but the infant survived the strain of the troublous times.

All the Branches agreed to pay an amount per member for the journal, which has, but for one period of several years, been fixed at £1. Our council in 1914 agreed that 5s. per quarter per member should be paid for the first three quarters of the year and 5s. in the last quarter if the finances of the Branch permitted.

In 1922 it was proposed that the company should acquire its own printing plant and produce other scientific matter in addition to the journal. A little later the proposal was extended, with a view to the company's owning its own premises. All the Branches were consulted, and by resolution indicated their interest in and approval of the extension scheme. Further debentures were issued to the members of the Branches, a site was bought adjoining the University of Sydney, and in 1925 *The Printing House* was completed.

In this building is produced our journal; but in addition a very great deal of work is done in the printing and publication of journals of professional organizations and transactions of scientific societies, as well as printing for individual medical practitioners. The company is a flourishing concern; but so far its directors have used surplus profits very largely towards the provision of modern machinery and general equipment to fit it for the production of various kinds of scientific works as well as of an efficient journal for our members. It is hoped later to make this journal not only larger but also to enhance its value to its recipients. The Editor, during his recent trip abroad, informed himself fully of many valuable features in the production of a medical journal, and we shall receive the benefits later on.

Though the profits will later on be for the benefit of members, first, I would hope, by way of a still better journal and later by a reduction in the subscription, they are not sufficient at the present time. In fact there was a profit last year on the whole of the company's activities, but the journal account showed a small loss, this being accounted for by the increased expenditure on the printing of reports of national health insurance doings; a great deal of the latter was printed at very short notice and so necessitated much overtime work by employees, with consequent abnormal cost.

I take it that all members know the objects of the Branch, which are set out in the rules under eight headings and do not occupy much space. Nevertheless they cover a very wide field of activity, and members elected to your council soon find that there is hardly any limit to the amount of work that can be done if the interests of the public and the profession are adequately safeguarded.

For a long period all items of business were considered by the council as a whole, meeting fort-

nightly. This was very unsatisfactory, for often much time would be spent over a large number of relatively unimportant routine matters, little time being left for really constructive work on much more vital problems, to the detriment of all concerned. Accordingly, some years ago, after prolonged consideration, the internal work of the council was revised. New subcommittees with specific duties were named and formed, so that now we have the executive, the finance, the house and library, the ethics, the organization, the legislative, the science and the hospital subcommittees. Each member of council is allocated to at least two of these and, as far as possible, to the respective ones in the work of which he or she is likely to be most interested and useful. This plan also distributes the work more evenly, although of necessity the members of the executive carry an extra burden.

As part of the revision of council work it was decided that each subcommittee should meet on a fixed date in the early part of the month prior to the meeting of the executive, and that the council should meet monthly six nights later.

All the matters requiring consideration are referred to the appropriate subcommittees for report to the executive and to the council, and it was also agreed that, except in matters involving policy of the Branch or where the rules provided otherwise, if the subcommittee agreed unanimously on a decision and the executive subsequently did likewise, then the decision was final and only reported to the council. All matters dealt with in this way are, in the arrangement of the council's agenda paper, set out on blue paper, those items for the council's consideration being placed on white paper. Though any item on the blue paper is open to consideration, at most meetings a motion for the adoption of them as a whole is all that is necessary. There is no doubt that under this method more time is available in council for debate on the more important matters of policy.

Nevertheless the interests of the Association have in recent years become increasingly wider and more important. But for the appointment of a medical man, in the person of Dr. C. H. Dickson, as our medical secretary, and of Mr. Edgar Ward as financial secretary, I doubt whether the work of the Branch could have been carried on if we had had to depend on the honorary work of council members, who even under existing conditions make a very great sacrifice of time and labour in the interests of members.

Years ago the council realized also how difficult it was to obtain a considered opinion on policy matters at Branch meetings. A special meeting of members would be held, at which, after prolonged discussion, some headway might be made, and then the meeting would be adjourned to a future date. At this second meeting it did happen at times that to a sufficiently large extent a different set of members attended. These newcomers, not having heard the original discussion, would be at a great disadvantage, and the net result would be little or

no progress in the adoption of a formulated policy. After much thought and after negotiations with the Central Council the Committee of Convocation came into being.

This committee consists of the members of the council with representatives of all subdivisions, the latter being elected on the basis, roughly, of one for each thirty members in metropolitan and one for each twenty-five members in country subdivisions. It was hoped that, due notice being given of the matter to be discussed, the local secretaries would convene meetings of subdivisional members. As a result, members of convocation would ultimately meet forearmed with the considered views of their electors. Naturally, better results could be hoped for than from meetings of Branch members not fully informed on the subject. Briefly, on occasions, convocation was to replace special meetings of Branch members. Its main activity is the consideration of matters of policy. It has no power of initiation; matters must be referred to it by the council. Its decisions are not even mandatory to the council, but provision is made so that the council cannot ignore these decisions.

I firmly believe that with certain modifications this body could be made a most valuable piece of machinery; but to become so it would also be essential that the local members first show a constructive interest in policy, whatever it may be, and then elect to convocation and to council members chosen wisely for their ability in such matters. Too often it has happened that members are elected because of their willingness to serve rather than for their ability to legislate with wisdom and with the trust and loyal support of the electors. With those provisos I am sure that convocation could function with great advantage to us all and bear much the same relationship to our council as the annual representative meeting does to the central council.

In addition to the above activities there are six special standing committees, and we have direct representation on the executives of some thirty-eight public and semi-public bodies—for example, the Victorian Bush Nursing Association, the Hospital Benefits Association, the Masseurs' Registration Board, the Victorian Baby Health Centres Association, the Victorian Council for Mental Hygiene, the Melbourne Permanent Post-Graduate Committee, the Board of Studies in Physical Education, and the University of Melbourne, to mention only a few. This is, in my opinion, one of our most important functions, for it does not only enable us to conserve the interests of the profession; more important still, it helps us, in forming public opinion, to further the interests of the people as a whole in matters concerned not only with the control and prevention of disease, but also with the maintenance of fitness, mental and physical.

Before I pass on to a brief consideration of the Federal Council it may not be amiss to cite two instances as to how the machinery operates.

Take, for example, the activities of the Association in relation to workers' compensation. Members are well aware that prior to 1936 workers' compensation enactments in this State made no provision for the cost of treatment of injured workers. The injustice of the absence of this provision was brought under the notice of the Government by the Association at several deputations. The acts of other States and other countries were studied and a case was prepared for the consideration of the Government. The Government brought down amending legislation making provision for payment for treatment. Owing, however, to the phrasing of the clause dealing particularly with the payment for treatment, the provision was ruled to be for emergency treatment only, which left the profession in approximately the same position as it had been before the amendment was enacted. The inadequacy of the provision had again to be brought to the notice of the Government, and efforts had to be made for the introduction of a further amendment. This amendment also proved inadequate, in that it merely provided £10 for hospital and medical treatment. The provision also fell short in that private hospitals were more or less excluded from treating injured workers. The Government had therefore to be approached again, with the result that there is now provision for £25 to meet the cost of hospital, medical, nursing and ambulance charges.

To move a government to amend a bill requires much preliminary work, many interviews and the preparation of a case that will be proof against the most careful analysis not only on the floor of the House but also in the electorates.

My second example will be in respect of an ethical matter. For the better attainment of the objects of the Association in regard to the maintenance of the honour and interest of the medical profession, it is the business of the Branch to consider questions of professional conduct and to pass rules and regulations that are binding on the members. It must always be borne in mind that a member of the British Medical Association in Victoria is *ipso facto* a member of the Association in any part of the Empire. That being so, it would obviously be impossible to pass rules or to restrict or give greater latitude to members in Victoria in any way that would not be in harmony with those of the Parent Body. There must be more or less common standards of eligibility throughout the Association. To ensure this there are common ethical rules for the whole organization, and there is definite provision in the constitution that prevents any alteration of these rules without the approval of the Parent Body. The rules have been carefully framed and are not coercive. In the case of a complaint by one member against another the written complaint must be rendered in duplicate to the honorary secretary, who, having satisfied himself that certain formalities have been complied with, then refers the case to the council or to the ethics subcommittee, usually the latter. This

subcommittee, after full investigation of the available facts, makes a recommendation to the Branch council, which body cannot discuss the report of the facts as found by the ethics subcommittee, but may resolve that the report be approved and adopted or be approved and amended or be referred back to the ethics subcommittee.

The interests of the members are still further conserved by the fact that the utmost penalty, expulsion, must be approved by a three-fourths majority of members present at a special meeting of the council, confirmed by three-fourths of the members present at the next general meeting of the Branch.

The Federal Council emerged from the Federal Committee. It became a registered company under the New South Wales *Companies Act* on February 7, 1933, and, being a company, it has a memorandum and articles of association, in which are laid down its objects, powers and activities. The Federal Council consists of two members elected annually by the council of each Branch, and its *raison d'être* is to act as a corporate body in Australia in conformity with the constitution, rules and regulations of the Parent Body, and to carry out the objects of the Association collectively in Australia, but—and this is important—only so far as power has been given to it by the Parent Body. The Federal Council has made, and indeed was required to make, an agreement with the Parent Body so to act before it was given the right to use the words "British Medical Association" as part of its name. And it also agreed to submit to the Parent Body for approval any alterations it proposes at any time to make in its memorandum of association or regulations. The memorandum and regulations, in effect, say: "As a constituent of the British Medical Association with legal entity in Australia which we the Parent Body have sanctioned you may do certain things which we the Parent Body approve and in the manner we approve." If the Federal Council goes beyond its sanctioned powers there is provision for dealing with the situation. Now the Parent Body has not been restrictive or niggardly in its conference of powers on the Federal Council. In effect it has given the council powers capable of advancing and controlling the Association's affairs in Australia. Any restrictions on the use of those powers are imposed with the expressed intention of conserving the interests of members of the Association. Members of the Association have rights, and those rights are not restricted to the confines of the particular Branch or division the member happened to be connected with when he joined the Association. Those rights go with him to any part of the Empire in which he may decide to settle temporarily or permanently. For that reason, as I have stated, there must be a common standard of eligibility. There must be a common rule too, determining what is or is not inimical to the honour and interests of the profession. Action warranting expulsion, for instance, in Australia, must carry with it the same penalty in England, Hong-Kong or India.

And now I mention briefly the objects of the Federal Council. Broadly, they are to promote in Australia the medical and allied sciences, to maintain the honour of the medical profession in Australia and to promote and maintain its interests. To do this it is constituted with full powers to hold meetings, to circulate information, to form a bond of union among the respective Branches in Australia, and to be the medium for ascertaining and expressing their views. It can take steps to promote fair and honourable practice, to suppress, discourage or prevent malpractice or professional misconduct, and it may make decisions on all questions of professional usage and courtesy referred to it by Branches for settlement and decision. It can consider, originate and promote improvements in the law relating to the medical profession or to the medical and allied sciences, and oppose or support legislative measures affecting the interests of the profession. It can, of course, raise, expend and invest moneys within the scope of its constitution. Actually it can do all lawful things incidental and conducive to the carrying out of its objects.

There are three other activities related to the Branch that are worthy of reference. One is the British Medical Insurance Company of Victoria. This is a far more valuable asset than many members are aware. Last year, for various needs, its contribution to the Branch was nearly £800. But members should remember that the extent to which the activities of the Branch can be promoted by financial assistance from this company is determined absolutely by the patronage members extend to it.

Particularly does the company desire to obtain a larger share of other insurance requirements of members than motor car insurance, for it can undertake any form of insurance to members' advantage, and any advantage that may accrue to the company from the increased business will ultimately be applied to the advancement of the interests of Branch members.

Another activity is the British Medical Agency Company conducted in association with Mr. W. Ramsay. This also is a business well worthy of fuller support. Members can deal directly with the office in Swanston Street, or to equal advantage with the office in this hall, where they may consult with our two secretaries on the professional and the business side and be assured of the soundest advice and consideration. Here again, not only would individuals get the immediate benefits accruing from taking advantage of such facilities, but the Branch as a whole would benefit ultimately.

Lastly, there is one most worthy activity which is not carried on for financial profit and is not owned by the Branch. Nevertheless, every member should have its welfare at heart. I refer to the Victorian Medical Benevolent Association. This is controlled by a committee of Association members, and in an unostentatious way does very fine work for some practitioners and for widows and children

of colleagues who have fallen on hard times. Though the income of the Association usually exceeds expenditure, yet in some years the margin of safety is very small, and the committee has not been able to err even a little on the generous side. I would appeal to every member to add his modest five shillings for this association when he pays his annual subscription, and can assure him that in doing so he is supporting one of the best objects possible.

In conclusion let us remind ourselves that foremost our Association is an organization for the advancement of the science of medicine. But there is nothing inconsistent in protection of the interests of the men engaged in the practical application of the science of medicine *pari passu* with advancement of the science itself. Indeed, I make bold to say that success in the advancement of the science and its practical application can best be achieved if members of the profession combine to secure contentment within the profession. The Association of which we are members is constituted to secure for the profession the social standard it has the right to claim from the community, and for the community the service it has a right to expect from the profession. To ensure this the Association provides for the development of its scientific activities through its science subcommittee and its liaison with the university and the teaching hospitals. On the other hand, it pursues its medico-political development through its ethics, organization, hospital and legislative subcommittees. It then has its executive and council to coordinate and give the *imprimatur* necessary to making effective the decisions of the respective subcommittees. In a word, what I have endeavoured to show is that the British Medical Association is an organization endowed with powers, influences and prestige adequate, when properly applied, to procure for the profession what it may reasonably expect from the community. And, what is equally important, it is an organization endowed to pass on to the community through its members the advantages of the advances in medical science. Whether it succeeds or fails in gaining and serving to the full extent of its endowment will depend upon the interest members take in the Association's affairs and upon the efforts they make to bring its aims to fruition.

THE CHEMICAL ESTIMATION OF VITAMIN C, WITH ANALYSES MADE UPON SOME QUEENSLAND PRODUCTS.¹

By E. L. LEGGETT, M.Sc., A.A.C.I., and
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Method.

THE estimation by chemical means of vitamin C (ascorbic acid) was first developed by Birch, Harris

¹ This work was recently carried out by the authors for the Queensland Nutrition Council.

and Ray in England in 1933,⁽²⁾ and the original method, or modifications of it, has been extensively used since that time. The method consists in the titration of an acid extract of the material under test with the oxidation-reduction potential indicator, 2:6 dichlorophenol-indophenol, which has previously been standardized against a solution of pure ascorbic acid. It is possible that substances other than ascorbic acid reduce this dye, but Birch *et alii* have shown that interference from such sources is prevented if the titration is carried out rapidly at a relatively low pH.

A review of the literature during the present investigation suggested three possible ways in which the accuracy of the original method of Birch and his co-workers might be improved.

(i) The maintenance of a constant pH during the titration. The oxidizing power (E') of 2:6 dichlorophenol-indophenol varies with the pH.⁽⁷⁾ While the variation in solutions more acid than pH 5.0 is small, it is desirable for greater precision to keep the pH of the solution under test as constant as possible during the titration with the dye. The procedure finally adopted in the standardization of the indophenol was to add a known amount of ascorbic acid to a buffer solution of pH 2.5 and titrate with the dye. In the subsequent titrations of unknown solutions these were carefully brought to pH 2.5 by the addition of decinormal trichloroacetic acid or caustic soda and then titrated. The addition of buffers in these cases proved unnecessary owing to the natural buffering action of the extracts.

(ii) Number of extractions made. The general procedure for the removal of ascorbic acid from solid materials has been to make one or more extractions and make the final filtrate or centrifugate to a known volume. This lies open to the objection that repeated extractions expose the material unduly to oxidation. It would appear that a better method would be to add a definite volume of acid to the material, grind thoroughly (with the addition of sand) and then allow to stand for a short time to ensure uniform distribution of the intracellular fluids throughout the solution. An aliquot could then be taken for titration. A slight error is involved here, inasmuch as the total volume of solution is not known accurately, owing to uncertainty as to the exact water content of the original material; but as most fruits and vegetables contain at least 85% to 90% water, this error is small.

(iii) The concentration of acid used in the extraction. Birch *et alii* in their original paper suggest 20% trichloroacetic acid for the extraction. Other extracting fluids used since include 8% and 3% trichloroacetic, 8% acetic, and a mixture of 6% trichloroacetic and 2% metaphosphoric acids.^{(1) (8) (9) (10)}

In the present work trials were carried out with 20% and 1.6% (N/10) trichloroacetic acid, and in addition the two methods of extraction outlined in (ii) above were compared. For this purpose four methods were used, as follows:

A. To 10 grammes of pawpaw were added 40 millilitres of decinormal trichloroacetic acid and a small quantity of acid-washed and ignited sand. After thorough grinding and centrifuging five millilitres were taken, the pH was adjusted to 2.5 (with thymol blue as indicator) and the titration carried out. The remainder of the centrifugate was treated with sulphuretted hydrogen in the usual manner to reduce any dehydro-ascorbic acid present.⁽⁴⁾ After two hours the excess of sulphuretted hydrogen was removed by carbon dioxide and the solution was again titrated as before, the total ascorbic acid thus being obtained. To a similar sample a known amount of pure ascorbic acid was added and the sequence of the determinations was repeated.

B. As in A, but with 20% trichloroacetic acid replacing the decinormal acid.

C. Ten grammes of pawpaw with sand were extracted twice with 20 millilitres of decinormal trichloroacetic acid, followed by two extractions with 20 millilitres of glass-distilled water, and the volume was finally made to 200 millilitres. The subsequent procedure was as described in A.

D. As in C, with 20% trichloroacetic acid in place of the decinormal acid.

The results of these tests are shown in Table I.

TABLE I.
Recovery of Ascorbic Acid with Various Methods of Extraction.

Ascorbic Acid.	A N/10 Trichloroacetic. One Extraction. (Milli-grammes.)	B 20% Trichloroacetic. One Extraction. (Milli-grammes.)	C N/10 Trichloroacetic. Repeated Extractions. (Milli-grammes.)	D 20% Trichloroacetic. Repeated Extractions. (Milli-grammes.)
Reduced form:				
In sample	4.47	2.55	4.44	3.00
Added	5.00	5.00	10.00	4.00
Amount present ..	9.47	7.55	14.44	7.00
Amount recovered ..	9.39	6.57	14.04	6.48
Total:				
In sample	4.50	2.52	4.56	4.20
Added	5.00	5.00	10.00	4.00
Amount present ..	9.50	7.52	14.56	8.20
Amount recovered ..	9.40	6.00	14.28	7.20

It will be seen that method A gave the best recovery of ascorbic acid, while of the two methods in which 20% trichloroacetic acid was used, the method of repeated extraction was the better. These two methods were further checked against each other, with the results shown in Table II.

As a result of these tests method A was taken as the standard in all further work with solid materials.

The procedure used for fruit juices was as follows. Ten millilitres of the juice were diluted with 20 millilitres of glass-distilled water and filtered rapidly. The pH of the filtrate was then brought to 2.5 and the subsequent steps carried out as above.

TABLE II.
Comparison of Methods A and D for the Extraction of Ascorbic Acid.

Foodstuff.	Ascorbic Acid in Sample. (Milli-grammes.)	Ascorbic Acid Added. (Milli-grammes.)	Total Ascorbic Acid. (Milli-grammes.)	Ascorbic Acid Recovered. (Milli-grammes.)	Percentage Recovery.
Method A:					
Tomato	2.19	2.00	4.19	4.23	100.7
Pineapple (Ripley) ..	1.29	1.00	2.29	2.28	99.6
Beans	2.01	1.00	3.01	3.00	99.7
Spinach	5.34	10.00	15.34	15.25	99.4
Potatoes (English) ..	3.04	1.00	4.04	4.01	99.2
Method D:					
Tomato	3.04	2.00	5.04	4.13	81.9
Pineapple (Ripley) ..	2.04	1.00	3.04	2.78	90.8
Beans (string) ..	2.44	1.00	3.44	2.90	84.3
Spinach	4.95	10.00	14.95	12.44	83.2
Potatoes (English) ..	4.36	1.00	5.36	4.50	84.0

Results.

The results shown in Table III were obtained by the method described above on some Queensland fruits and vegetables. The figures given show the total vitamin present, both in the reduced form and in the form of dehydro-ascorbic acid, both of which have been shown to be biologically active.⁽³⁾ All materials examined were at their optimum condition for consumption.

TABLE III.
The Ascorbic Acid Content of some Queensland Fruits and Vegetables.

Substance.	Number of Samples Examined.	Ascorbic Acid (Reduced Form). (Milli-grammes per 100 Grammes.)	Ascorbic Acid (Oxidised Form). (Milli-grammes per 100 Grammes.)	Range Found by other Observers. ⁽¹⁾ (Milli-grammes per 100 Grammes.)
Tropical Fruits:				
Banana—				
Cavendish	14	7 (5-9)	2	7-3
Gros Michel	4	5	1	—
Moss Marie	5	11 (9-12)	Trace	—
Lady Finger	3	14 (11-18)	4	—
Sugar	2	18	2	—
Pawpaw	6	79 (45-118)	0	61.8
Persimmon (various varieties)	2	27	1	36
Pineapple—				
Rough Leaf	5	47 (32-69)	0	10-63
Ripley	5	34 (24-37)	0	—
Smooth Leaf	6	14 (11-16)	0	—
Citrus Fruits:				
Grape-fruit (various varieties)	9	46 (38-61)	0	26-62
Lemon (Lisbon) ..	5	30 (29-30)	0	26-63
Mandarin	2	30	2	—
Orange—				
Late Valencia ..	3	66	3	50-62.7
Joppe	2	47	3	—
Miscellaneous Fruits:				
Grapes	2	8	0	1-4
Pear (various varieties) ..	3	2	Trace	0-8
Vegetables:				
Beans (string)	4	24	1	1.8-15
Cabbage	7	40 (39-41)	12	22-124
Lettuce	5	19 (12-26)	2	0.5-22
Mint	2	47	18	63
Parsley	2	232	11	140-280
Peas	2	21	3	4.8-40
Potato—				
English	5	21 (16-29)	1	11-36
Sweet	2	17	4	—
Silver beet	3	40	0	6-124
Tomato	9	22 (20-26)	0	12.9-39

NOTE.—The figures in parentheses represent the range of values for five or more determinations.

Various estimations have been made of the daily requirements of vitamin C by the average individual.

The most acceptable evidence appears to be that of Heinemann⁽⁶⁾ (1936), who estimates it at 60 milligrammes for a body weight of 70 kilograms (ten stone approximately).

In the majority of cases the Queensland figures given in Table III fall well within the range found elsewhere. The relatively low value for lemon juice in Queensland is interesting. The difference between the values obtained here and overseas may be due to a difference in variety. As regards lettuce, it is possible that the low figure obtained in the United States of America and Canada⁽⁵⁾ is due to the vegetable having been picked some time before testing, as it is shown below that the vitamin C content of this vegetable falls off rapidly after it is picked. In the case of cabbage, the matter is complicated by the fact that this vegetable contains part of its ascorbic acid in the combined form. When cabbage is cooked for a short time the vitamin C content is increased owing to liberation of the vitamin from a protein-ascorbic acid compound.⁽¹¹⁾ The increase in the free vitamin in cabbage after cooking for fifteen minutes was confirmed in the present investigation.

The very high figure obtained for parsley is also worthy of special comment.

Loss of Vitamin C in Storage and Cooking.

The Storage of Lettuce.

A test was made on the rate of destruction of the vitamin C content of lettuce after picking. The lettuce was kept in the laboratory, wrapped in damp newspaper, and when tested after twenty-four hours' storage was quite crisp and fresh in appearance. The rate of destruction of the vitamin was found to be quite rapid. Results obtained were as shown in Table IV.

TABLE IV.

Number of Hours after Picking when Tests were Carried Out.	Total Ascorbic Acid. (Milligrammes per 100 Grammes.)	Percentage Destruction.
2	20.8	—
24	7.3	65
72	2.0	90

The Effect of Cooking on the Vitamin C Content of Vegetables.

Tests were carried out to show the effect of cooking on the vitamin C content of vegetables, as it was generally thought that destruction of the vitamin is quite rapid when heated. It was found that the loss was about 20% to 40% of which about 20% was lost through solution in the cooking water. On no occasion was sodium bicarbonate used in the cooking. In Table V are some of the results obtained in this connexion.

These results were later confirmed by full scale cooking tests, in which comparable figures were obtained.

TABLE V.
Ascorbic Acid Content of Vegetables Before and After Cooking.

Vegetable.	Amount.
A. Potato, raw	0.174 mgm./gm.
10 gm. peeled and boiled for 25 minutes	0.117 mgm./gm.
Amount recovered from cooking water	0.51 mgm.
Total loss	4%
B. Onion, raw	0.12 mgm./gm.
12.2 gm. boiled for 20 minutes	0.075 mgm./gm.
Amount recovered from cooking water	0.51 mgm.
Total loss	4%
C. Turnip, raw	0.473 mgm./gm.
10 gm. boiled for 35 minutes	0.254 mgm./gm.
Amount recovered from cooking water	1.7 mgm.
Total loss	10%
D. Carrot, raw	0.042 mgm./gm.
6.1 gm. boiled for 35 minutes	0.034 mgm./gm.
Amount recovered from cooking water	0.029 mgm.
Total loss	9%
E. Marrow, raw	0.098 mgm./gm.
9.75 gm. boiled for 10 minutes	0.070 mgm./gm.
Amount recovered from cooking water	0.22 mgm.
Total loss	5%

Summary.

Details of a modification of the usual chemical method for the determination of vitamin C are given. This modification gives practically theoretical recovery of added ascorbic acid.

Figures are given for the vitamin C content of a number of Queensland fruits and vegetables.

Tests carried out on the cooking of vegetables indicate a loss of 20% to 40% of their vitamin C. Most of this loss occurs through solution in the cooking water.

The deterioration of vitamin C in lettuce on storage is also discussed.

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PUBLIC HEALTH: HEALTH WORK IN COUNTRY CENTRES.¹

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My subject is such a very vague one and the ramifications are so wide that I have been considerably puzzled as to what I should put in and what I should leave out. I could easily fill my time with innocuous gossip and so do no harm, but I have been told that I should produce something provocative. And I also have felt that I should do more than this, for my researches into the minds of my fellow practitioners in this matter have convinced me that all is not as well as it should be in public health work in rural South Australia, and that this is the first, and may be the last, opportunity that we country men have had to say our piece about it.

I have conducted these researches by conversation, by correspondence, and by an effort at recollection of many conversations through the years.

And I have decided to divide my offering into two parts. First I shall tell you of some of the experiences which have come my way during my ten years' experience as medical officer of health and my subsequent two years as a member of a local board. These may be of value to you as actual experiences. And in the second part I shall describe my conclusions as to the source of the general stagnation and backwardness which appear to be characteristic of rural public health administration and try to point the way to a remedy. And I shall limit myself to public health within the act. I could add a longer third chapter on what we do outside the act, but that would try your patience too greatly altogether and is hardly necessary on this occasion.

Experiences.

And so to experiences. It is my observation that only two of the commoner infectious diseases are taken seriously by the rural general public—scarlet fever and diphtheria.

Scarlet Fever.

Of scarlet fever you have had enough this afternoon. But I would just mention that I have

repeatedly seen the occurrence of an isolated case of scarlet fever in the midst of an epidemic of acute tonsillitis; and we have all seen the occurrence of all the complications of scarlet fever after acute tonsillitis. My conclusion from these facts is that acute tonsillitis should be given the status of a dangerous notifiable disease, especially when one thinks of rheumatism.

Diphtheria.

Diphtheria immunization is a much debated question. My own opinion is that voluntary immunization is an unsound method of attack, as we reach thereby only a small proportion of susceptibles.

The two great enemies in infectious disease control are the ambulatory patient and the careless parent. And it is these same careless parents who neglect the opportunity of voluntary immunization; they are the people who let the patient with a mild infection loose upon the general public. No very great advance will be made until immunization is made compulsory and the Government pays for it in necessitous cases. This was done with the enemy from without, smallpox, in the long ago dark days; why should it not be done in these enlightened times against the enemy within?

In reference to the mass treatment of young children, I think that the relatively high immunity conferred by two injections is well nigh sufficient. That third injection is usually attended by a mass panic, and the residuum of youngsters who are left with a dread of the doctor as the man who hurts them must be considerable. And this is an important thing. I know that this admits the persistence of a modicum of mildly susceptibles who will probably increase the proportion, not the number, of ambulant carriers in future years. But if diphtheria can be converted into a minor malady amongst a universally immunized population, we shall have achieved our purpose.

Diphtheria swabs instead of being sent any great distance should be incubated at the bedside. This is the only way to get sure results. It will be of value that the Director General of Medical Services proposes to establish incubators at all country Government hospitals, and this should help to reduce the number of negative results caused by delay and distance. If the new tellurite test proves to be as efficient as early results suggest, then our difficulties in this matter will be considerably relieved. It has always been my practice to charge to the local board the cost of the examination of diphtheria swabs, and I have had no difficulty in getting this accepted.

I have no doubt that education is helping us slowly to conquer these infectious diseases; but I also feel that a stricter application of the penalties which can be imposed under the act for breaches of quarantine *et cetera* would have a very salutary effect on the control of measles, pertussis and minor infectious diseases.

¹ Read at a conference of medical officers of health, Adelaide, May 20, 1939.

² Port Lincoln is an industrial governmental seaport town which is the gateway to and the capital of the large area of poor agricultural and pastoral country of Eyre's Peninsula. It has a fixed population of about 3,750 and a considerable floating population as a holiday resort of great charm and many attractions.

I so much believe in education that I think it is a very good idea, when epidemic threatens, to call a meeting of mothers through the mothers' club or the Country Women's Association, and to give the mothers a sound talking to about the threatening epidemic, especially emphasizing the serious nature of complications and the determination of your board to be rigid about quarantine laws and fines for non-observance of regulations.

Disposal of Sewage.

In the disposal of sewage there is only one recommendation I can make—the septic tank. I am agreed that the pan system is a sound one, provided that every privy is made flyproof. This can be done and goes a long way in helping to eliminate summer diarrhoea, which is still regarded as a normal occurrence in country towns, affecting all ages and individuals. The diminished infant mortality from this cause I am included to attribute to improved infantile nutrition and constitution *plus* a probably diminished virulence of the organism rather than to sanitation. But I am certain, from experience at Bute, where we applied this measure, that the incidence can also be diminished by this elementary step forward. Of course, the regulation requires policing, but an occasional inspection and fine will keep people up to the mark.

Some years ago a regulation was passed in Port Lincoln making a septic tank essential in every new dwelling. It has never been applied because of the increased cost to house builders; but we are now considering a plan for installing them on the hire-purchase system, the hire to be paid by the continued collection of the present sanitary charges made for disposal by pans. This charge is 35s. 2d. *per annum*, and this would repay cost and interest in about twenty-five years, the security being the rates on the property, which are even better security than a mortgage. The finance of original cost is, of course, the difficulty, but we hope to be able to overcome that.

A good water supply is essential—a million gallons per five hundred persons—but there are few places where such water could not be made available, even if the responsibility of storing it devolved upon the property owner.

Septic tanks are under the control of the Central Board, but I think that installations, at any rate, should be under the control of the local board. Plans are only plans, and installations do not always follow them when the inspector is a hundred miles away. An intelligent local board would provide for installation, under the eye of the building inspector, only by a certified plumber with his certificate at stake.

There are many places, I know, where there is considerable difficulty in the disposal of effluents from septic tanks owing to the nature of subsoils. These can usually be overcome by the use of subsoil drains *plus* the continuous growth and regrowth of bamboos. The important thing is that the bamboos be cut as soon as they reach maturity.

At the worst a soakage well, a pump and some Condry's crystals with a patch of lucerne for the fowls will cope with the trouble. Such soakage wells are commonly used for the disposal of other domestic and shop effluents. It is very important that they be provided with an efficient grease trap, as grease in the water quickly renders many soils impervious. The cause of most failures in soakage wells will be found in this fact. The establishment of deep drainage systems is, from our inquiry, far beyond the resources of all but very large provincial centres, such as do not exist in South Australia.

Garbage and Refuse.

In small communities food refuse can well be fed to fowls, and rubbish to a fire; and it is easy to conduct periodical inspections to see that this is done. In larger towns the matter is best dealt with by weekly collection from the regulation covered bin. The present cost at Port Lincoln for collecting dry rubbish only is about twopence per collection, and we have found the work best done by daily work under the overseer. The greater part of food refuse from private houses is handled as part of this, but the larger food residues from boarding houses, hotels *et cetera* are collected by a pigman every other day at no cost to us, except that of watching him to see that he keeps his bins covered. Garbage from shops, such as packing straw *et cetera*, is handled only by special contracts, the contract being based on the cubic content. Actually the garbage service chargeable to the rates is one standard bin per week.

The town of Port Lincoln is very scattered, and more compact places should be able to run the service more cheaply than we do.

Yet the medical officer of a big northern town writes: "There is no proper system of refuse removal. The board say they cannot afford it." At the same time he considers his board to be a good one. I feel sure that if that board realized that refuse accumulation is a prime cause of rat, fly and vermin infestation, and that this cost is an economic one as well as a sanitary one, the difficulty would disappear.

One of the fundamentals of constructive health policy is the provision of good housing conditions. These are definitely obtainable throughout South Australia if local governing bodies will see fit to apply the provisions of the *Building Act* within their boundaries. I do not see how good preventive medicine can be carried on without it. The act gives councils the right to approve or to veto the plans of all buildings erected within the proclaimed areas, and prescribes certain standards which must be attained. Plans must be presented and approved before building is begun, and the council's building inspector has the right of entry to the premises at all times to see that the work is done according to plan.

We have a large number of flat dwellers at Port Lincoln. Most of these flats are old dwelling houses

converted before the *Building Act* began to apply, and the conditions there are a continual source of annoyance to our board.

Actually only 32 out of a total of 121 local government bodies outside the metropolitan area apply the act, many of them being district councils which apply the act only to townships within their area. I can only recommend that the remainder be persuaded by their medical officers to do so as soon as possible. It will help in this persuasion if you will let them know that there are good things to be obtained in building fees.

Schools.

It is one of the great defects of our educational system that in these days of sanitation the school is definitely Public Enemy Number 1 of the district's health, unless the school teacher is cooperative. If the teacher is willing, then the school can be the advance guard of the attack on many of our problems, firstly by the inculcation into the children of the reasons for, and practice of, personal and public hygiene, secondly by the inculcation into the dominie (a) of the necessity for unremitting vigilance in watching for the signs of infectious disease and in excluding sufferers and contacts at the earliest indication, and (b) of the dangers which may accompany these diseases.

Unfortunately in many small schools average attendance is an important index of status and classification, and therefore in the assessment of the teacher's tasks and prospects. In very small schools it is the determining factor in keeping the school open. Moreover, absences of individuals dislocate class work. Hence teachers are inclined to keep their pupils at school as long as possible.

Of course teachers are strict enough about the notifiable diseases which are covered by Education Department regulation. They have to keep on eye on these; but there are worse diseases than mumps and chickenpox which are allowed to run riot in the schools, notably the upper respiratory infections and *impetigo contagiosa*. (I am perfectly aware that the former pair are not notifiable diseases. But they are still excludable diseases requiring disinfection under the Education Department regulations.)

When I went to Lincoln the latter lesions were so common that they were known and fatalistically accepted as "Lincoln sores". At Bute they had been known as "Bute sores".

Following on similar experiences at Bute, I suggested that some control should be exercised. As a board we wrote to the department and I had a word with the head teacher. He agreed that no child would be allowed to attend school unless such sores were completely and efficiently covered by an occlusive plaster or bandage. He was very keen about it, with the result that the complaint quickly disappeared from our midst, to the considerable loss of my partner and myself. I believe that the department complied with our request and gazetted a regulation on the above lines. But, like

most regulations, it is not of necessity scrupulously observed.

As you all know, the disappearance of *impetigo contagiosa* must have a very definite effect on the incidence of cellulitis, adenitis, osteomyelitis and septicæmia.

The school is, of course, the forcing bed of respiratory infection, with all its attendant consequences. It is my observation that immunity from the common cold lasts about two months. In a large school the rate of spread is just fast enough to ensure that there will be a recurring residuum of susceptibles before any epidemic can run its course; and so the infection goes round and round. Occasionally it reaches influenzal severity; occasionally it varies itself into a mixed infection with streptococci and an epidemic of tonsillitis results.

I do not propose to add my quota to the vast mass of invective against the common cold. But the sooner we get governments and individuals educated to the facts of the vast mortality, morbidity and economic loss which result from the common cold and its variants, and to realize their individual responsibility as infectives to their fellow citizens, the sooner shall we get something done about it and the sooner will public health work have made the greatest advance in this generation, diphtheria immunization not excepted. If we could only educate the school teachers into excluding every coryzal child for the first three days we should make a big step in this direction.

Tuberculosis.

My next theme is tuberculosis—not a criticism of the present, but a peep into the future. The Government in establishing its tuberculosis clinic has divorced the supervision of contacts, a now obvious *sine qua non* in tuberculosis prevention, from the Board of Health. This is quite all right in the city, but who is to do the work a hundred miles away from the clinic? It is pretty obvious that the children of the rural tuberculous will not be able to afford a three-monthly trip to the city. And the mantle of this work must inevitably fall on the medical officers of health or on the medical officers of government hospitals.

Unfortunately the diagnosis of preclinical tuberculous infection is a very expert matter. The business will remain, I expect, outside the spheres of the boards of health, and country centres will be established alongside competent X ray plants, under the care of medical practitioners who will be given a special course in the work. The only satisfactory alternative will be that a travelling medical officer shall visit such centres every three months or so for the purpose.

I bring this matter up here because so far I have seen in the scheme no provision for the country folk. I have no doubt that some eventual provision is contemplated, but I think that this chance of demanding an equal opportunity in this important scheme for our charges is one of which we country

medical officers should avail ourselves to the full, as it is hardly likely to occur again—not for a year at any rate.

I have in my hospital at present a man, the father of six small children, who has cough, bloody sputum and emaciation, but no physical sign in his lungs, only dubiously moderate reaction to tuberculin, and his sputum is up to the present "negative". Our X ray plant is not competent, though we have hopes that this may soon be rectified—an object I have been striving for for years. As far as I know there is no method by which I can get this man to the clinic; he is on rations, and I have no power to make him remain in hospital. If I let him go out he will infect all his children. I quote this case because I think it should give a serious pause to any complacency there may be about this tuberculosis business.

Puerperal Fever.

My experience of puerperal fever has been small, by the grace of God. Two things would I say. The first, that the law, not our own faddism, should compel the wearing of gloves, gown and mask by the operators at confinements, and of gowns and masks by everyone in the theatre. Secondly, I think the following experience of mine is of value. In my early days at Bute, in spite of every precaution, a percentage of midwifery patients had slight but significant rises in temperature. I was very worried about this and eventually I discovered that the same bedding had been in use for about twenty years, indiscriminately, for every type of case. In any septic case room disinfection was practised, so all should be "O.K." However, I packed up all the bedding and sent it off to the autoclave at Halifax Street. Thereafter four beds were kept for midwifery patients only and the fever disappeared.

I know that fomites are out of date, but I think there is a lesson in this experience. I think most of you can remember cases in which the bedding of the tuberculous has been used for children, and I know of the sale at an open auction of such bedding—in a district, unfortunately, where it was not my right to interfere.

Abattoirs.

I have previously referred to our local board as a very progressive one; and I think there is justification in my doing so in that we have the first rural abattoirs in South Australia, and, according to local pundits, the first guaranteed tuberculosis-free milk supply in the southern hemisphere. I think a detailed description of how they came about will be of value to you as demonstrating the possibilities of progressive public health administration in country areas.

The subject of abattoirs had been one of sporadic discussion and negotiation for years. It was reopened by a report which I put into the Local Board early in 1937, to the effect that local meat conveyance needed improvement. The report was

prompted by a daily sight in our main shopping area. At the busiest hour of the afternoon, about five o'clock, a shabby spring cart drawn by a dirty dun horse would pull up outside the town's biggest butcher shop. Several questionable looking bags would be removed from the cargo and the meat then carted from the stack in the cart on a definitely unclean shoulder into the shop, after having travelled in this fashion for four miles. Port Lincoln is fortunate in having a wholesale butchery as one of its main industries, and we again approached the Government to undertake the slaughtering of meat for local consumption as one of the many sidelines which flourish at the Government freezing works. Negotiations were rather protracted and would doubtless have died of inanition as before, had not some of us made it our special business to keep the thing alive in the Board of Health. The final result has been the establishment at the freezers of the Port Lincoln abattoirs, employing three butchers, at an added cost of £2,000, and a temporary rise of one penny a pound in the price of meat. The slaughtering charge is actually one-half penny per pound, but the butcher loses certain by-products and has certain capital costs to recover.

We have been fortunate in that there are permanent meat and stock inspectors at the freezers, and the abattoirs inspection has simply been added to their former duties. Actually one of these men deserves more credit than any of us for the establishment of the abattoirs, as he provided the ammunition for our fight. For example, he reported to me the instance of his being called to inspect the carcass of a beast which had been killed two days before at Warramboo, 120 miles away, and freighted to Port Lincoln in a guard's van in mid-summer—and it can be hot at this time in those parts on Eyre's Peninsula.

On another occasion we watched the unloading of the quarters of a beast from the back of a lorry which had come from Elliston, 105 miles away. This meat was stacked at the back of the lorry and covered with new hessian; but the next articles on the lorry were several bales of sheepskins, and the wool side was not out.

Slaughtering had previously been done in many different places and the meat was inspected only when the butcher was dubious about it, which, in spite of the *Health Act*, is the common rural practice. There were no licensed slaughter houses in the municipality; these were on the outskirts and were under the jurisdiction of the district council, which, while maintaining the *status quo* and conducting an annual inspection, had not the same vital interest in them as we had. But even so, slaughtering was, as often as not, done in the open paddock or farmyard where the stock were bought, a limb of a tree for a gallows. Of course, any farmer will tell you that a green or stubble paddock is the cleanest place to milk a cow or slaughter a beast, and there is certainly more poetry in it.

Maybe the farmer is right, provided the technique is suitable.

There are numerous sidelights which would be of interest to any local board planning an abattoir. The present position is this. The abattoirs opened in March. They control the meat until it passes over the loading stage, and thereafter the local board is in control of transport, shops and delivery. We have had to pass regulations dealing with vans, use of overalls, and cutting and wrapping of meat in the shop. By this last-mentioned regulation we have abolished that abominable relic of a bygone age, so familiar to rural residents, the cutting cart, which was the answer to the old song: "Where Do Flies Go in the Winter Time?" The inspection of shops, carts *et cetera* will be undertaken by the abattoirs inspector acting for the local board.

We have really been very fortunately situated with regard to this abattoirs establishment. But we are proud of our achievement therein, particularly as we had to run the thing through off our own bat, the Central Board being apparently unable to give us much of either advice or help, although it may have done a great deal of work on the quiet which we never heard about.

It may seem to many of you that conditions before the establishment of the abattoirs were particularly bad at Lincoln. I would only suggest that when you go home you take a good look at what is going on in your own town.

Non-Tuberculous Milk.

The advent of non-tuberculous milk was started by the same stock inspector I have mentioned above, when he reported to me that he had found three cases of tuberculosis in one of the local dairy herds. I brought the matter before the local board with a mild suggestion that herd testing would be a good thing. The suggestion was adopted with unexpected enthusiasm and a round-table conference with the dairymen was arranged. There are about twelve of them. I was asked to explain the position and the danger, which I did, with some little overstatement I will confess.

We made it clear to the dairymen that any infected cattle would be condemned forthwith.

Whether they were put on their mettle by this challenge to their cows or just what happened in their inner circles we do not know, but they showed remarkably little hesitation in agreeing to have the tests done. Not only this, but they definitely refused to let us share the costs of the tests, nor would they accept the establishment of any sort of compensation fund.

We awaited the results of the tests, which were conducted by an officer of the Stock and Brands Department, with some trepidation; but they turned out to be extraordinarily good. I think only three cows were condemned.

I should explain here that a condemned cow is not a dead loss, as it may be slaughtered subject to inspection, and only the infected parts of the

beast are withdrawn from sale. This fact of their being able to sell for slaughter reduced to a minimum the possible loss the dairymen had to face; but if one were dealing with expensive stud cattle the loss would be much greater.

At the present time all new cows are tested before they go into the herds, and it is proposed to test all cows every second year. The great difficulty with milk supervision is the "private" cow, whose milk is allegedly "given away" over the back fence. We intend, however, at Port Lincoln to establish a prohibited area about five miles round the town, in which all cows must be "negative" to tuberculin tests. This is at present held up pending the establishment of some sort of compensation fund. Eventually we shall thus wipe out the menace of the private cow. Meanwhile the dairymen are well satisfied. Milk has gone up a halfpenny a pint and there is increased trade resulting from the stigma attached indirectly to private milk. One leading dairyman tells me that the increased confidence of the public has resulted in an increased number of customers and in increased individual consumption by each customer—a very gratifying, if unexpected, result.

A natural question is: "Can the consumer stand the increased cost?" This remains to be discovered. The milk scheme has been operating long enough to determine this, and I have not observed any hardship coming from it or heard any objection. I think that I or my colleague would be the first to know. There is a general feeling that the rise in the price of meat has been more than the butchers say; but the impression is that any profiteering will soon be corrected by natural processes, that is, that a cut price butcher will soon see his opportunity.

I think that is enough of experiences. I have tried to select those which I think might be of most interest and value to you, and also those which may indicate to you that progress in health work in the country is not an impossible thing. But the considerable thought I have given to this paper, such information that I have been able to gain, and such impressions as I have been able to gather, have led me inescapably to the conclusion that it is an unusual thing.

Rural Public Health Administration.

If I am right in my conclusion, then it is right and proper that I should find a reason for it, and an examination of local boards becomes immediately necessary. I have come to certain conclusions about these local boards, which, for the sake of brevity, I shall postulate with the barest of comment. I may be right and I may be wrong about these things, but I think I am right. These conclusions are as follows:

1. Country communities are not remarkable for their sanitary-mindedness.
2. This outlook is reflected in their elected representatives.

3. These representatives are elected as councillors, not Board of Health members, and are knowledgeable of the former duty but not the latter.

4. Their duties as councillors are so manifold and so urgent that their duties as Board of Health members tend to go into the background.

5. The holding of Board of Health meetings at the end of council, when the members are thoroughly tired and have spent all the money the council can afford, is a very serious weakness in the present system.

6. The net result of these things is that local boards tend to become static concerns, whose chief interest is to satisfy the Central Board and to maintain a *status quo* which is largely negative in character; and their chief quality where progress is concerned is a ponderous inertia.

7. The medical officer receives no encouragement to improve this *status quo*, and is definitely expected to do no more than maintain it, the concrete expression of this sentiment being the meagre remuneration which he receives.

8. It is definitely not in his interest to depart from this principle.

9. He knows as a rule nothing of the proceedings of the board, except in those matters on which he is definitely asked to report.

10. However little he may know, however unenthusiastic he may be, he is the board's accredited and only expert.

11. He is thus in a position to be the source of inspiration to better things to the Board if he wishes.

12. But on account of board inertia, inspiration is not enough. It must often be accompanied by perspiration and desperation, that is, by persistence in persuasion, and assertiveness, even aggressiveness, in debating, and a complete ruthlessness towards his own personal feelings and interests.

13. Finally, that this board inertia is prone to produce in originally keen men a final feeling of defeatism, illustrated in the following letter:

Well, it takes the country to knock one out. My enthusiasm for a better sanitary system was worn down by the local authorities. Meat, milk, etc. supervision gave slight response with rapid return to the same old way. Efforts to institute general diphtheria immunization were blocked by ignorance, and so on. Gradually, therefore, you see my pet subject of no results until we get the public educated up to these points. And how to educate them? In other words, hold me up as a bitter example of unobtained ideals on public health matters and then point out how healthy the district remains so far.

This is definitely a win for the *status quo*. The real point of public health work should not be how healthy the district remains, but how much healthier it might be. Not that all the answers I received to my letters of inquiry were so dismal. But this one expressed an all too common defeatism so typically that I selected it for you. And the fact that many of my letters were not answered at all suggests a considerable indifference, if not a defeatism, on the part of the medical officers of health, especially as these letters were sent to individuals named by the chairman of the board as being amongst the keenest of his country health officers.

To sum up, then, I find that local boards are organizations whose very constitution forces them into a mould of heavy inertia, having no money of their own, and depending largely for their inspira-

tion on a medical officer who is not encouraged to supply it.

The inertia of local boards is such that they move only in response to external, frequent and powerful stimuli; and reinforcing this intrinsic inertia is the dragging anchor of "No funds available". This is the crux of the whole matter. There was never yet a council which had more money than it could easily spend. That money is all budgeted out at the beginning of the year; and it is only too natural that any proposal for expenditure beyond the budgeted allowance for public health contingencies should produce the same reaction as tickling an oyster. But if every local board had a hundred a year to spend, not on maintaining, but in advancing the health of the district, what an orgy of advance there would be, particularly if we were to include the improvement of playing fields, gymnasia, swimming pools and all the other activities of the national physical fitness campaign in the sphere where they rightly ought to be. That is as a step for the social and physical betterment of man, the sphere of protective medicine, and not a step to his ultimate social and physical destruction through war, the danger of which has brought it to birth.

Under Section 216 of the *Local Government Act* it is permissible for councils to strike special rates for health purposes; but this is rarely availed of, except to pay hospital contributions and sanitary contractors, when general revenue is strained. It is the same in municipal work as it is in national work—health is the Cinderella of the public purse's offspring. I personally think the law should be amended so that councils should be compelled to strike a health rate to provide separate revenue for their boards of health.

So much for the local boards. They do a very good job, according to their lights and ability, but I very much doubt whether those lights are the right lights. They are not to know, for they have not been shown sufficiently the brighter beacons of progress and their duty to navigate thereby. Thus they naturally set their course as accustomed by the good old *status quo*. They are as they are, and are likely to remain so, some better, some worse, but mostly approximating to the standard I have drawn, and dependent, as I have said, for their inspiration to progress on their medical officer. As he, even more than the money, is likely to be the determining factor in the activity or passivity of local boards, I think it is only fair that we should critically examine him to see what part he really plays. What do we do, and how much do we really know about public health work? What is our attitude? Are we adherents of the *status quo* or are we pushing things forward? Are we satisfied that the district or town is as healthy as it is, or do we consider how we can make it healthier?

I know that I went into a rural medical officer of health job with no real knowledge of it and no

real interest. Certainly at the back of my mind there was an obscure ideal, but it had no real substance to it. I had passed an examination and had forgotten most of the subject in the years between, when I was learning the really important business of healing sick people.

I received £20 a year, a useful perquisite, for advising the council when I was asked, and for keeping an eye on infectious disease. I never went to Board of Health meetings and had no practical knowledge of the board's difficulties. The system seemed to work all right, the *status quo* was maintained, and all seemed well. After a few years I began to get a dim sort of inkling that this *status quo* might be improved. Then I resigned my position as medical officer of health to a junior partner. The usual thing. I placidly, even gladly, gave up the work for ever, to find myself a few months later thrown by circumstance into membership of a board. During two years I have come to realize that there are great possibilities in ordinary public health work under the act, that the present rural *status quo* is a very poor thing indeed, and that there is no end of things to be done. And I must say that I feel enormously less competent to deal with those possibilities. I wonder how many medical officers of health are any better fitted for the job than I was two years ago, or have any greater keenness or prevision than I had. I had not come to the apparently common feeling of defeatism, but I had inertia.

I know there is every excuse that we should be like this. Most country general practitioners are exceedingly busy men, deeply immersed in the affairs of the moment, the inevitable result of their calling, and with many pressing worries most of the time. Public health work is a remote business. Our ordinary job makes us seek results and change from day to day. Public health work shows no tangible result at all, except a gradual diminution of our earnings and increase of our spare time. The remuneration is such that there is no inspiration in it to do more than live in the place and to do what one is required to do. All in all it is but an adequate remuneration for our part in maintaining the *status quo*. It is definitely no incentive to the risk of loss of private practice and friendship involved in "stirring up trouble", and in turning one's thoughts away from one's real source of livelihood.

I trust none of my hearers will be hurt by these remarks. I am sure you all consider yourselves good conscientious medical officers of health; but can you conscientiously claim to be other than good adherents of the *status quo*? If not, then I do not think you are doing enough.

Wherein, then, lies the remedy for this *status quo*? In local boards first? How can we as medical officers of health be inspired to inspire our local boards? By increased remuneration? No. We should still be too busy, still too detached, still too voiceless to do much good. We should still drift back to the

status quo. By an alteration in the constitution of local boards? Possibly, but definitely not by divorcing their personnel and their machinery from that of the councils. The work of the two bodies is so interlocked that they must remain in their present position. By ourselves becoming councillors and thus obtaining the seats on the boards? A thousand times no. I have tried it, and if your council is an active one you and your patients will bitterly regret it. But quite definitely an advantageous addition may be made to the personnel. Medical officers should not be merely employees of local boards; they should be members and should have equal vote and equal voice in the decisions of the board. Then they will get their ideas and inspiration from the proceedings of that board. And how else can they reasonably be expected to supply the inspiration and stimulus, the repeated stimulus, so vitally necessary to progress?

Given these desiderata, however, I fear it would still be a case of the one-eyed man leading the semi-blind; and even the present improved liaison with the Central Board only makes of it a far faint and far guiding light. The point is that the country doctor's first and foremost business must always be the healing of the sick, not the prevention of sickness; and the former is a full-time job for most of us.

How, then, to improve things? The Central Board sends its inspectors and the local board receives a voluminous report which seems to be largely concerned with A's dustbin or B's privy. Hidden away amongst the chaff there are the seeds of ideas; but through how much petty detail one must delve to find them! I regret to say that these reports are not taken very seriously. There is too much detail for tired councillors, who tend to show a certain ribaldry at recommendations quite unsuited to local circumstances. Too much meddling with the precious *status quo*. The report is received unread and referred to the medical officer for his comment; and the clerk is instructed to serve such notices as seem necessary.

The members of the Central Board pay their periodical visit, and a great help it is. But they are prevented from doing all the good they might, by their essentially urban outlook and appearance, before which your countryman is likely to shut up like a clam. I was not able to be present at their last visit to us, and discovered that they were leaving the town in complete ignorance of our abattoirs and tuberculosis-free milk scheme.

So I have thought the thing over pretty thoroughly and I can come to only one conclusion. While local boards do their best according to their lights, they have never been adequately shown how bright those lights may become; and while the medical officers at present do a good job, they can hardly be expected to be other than good supporters of the *status quo*; they have not the time to be otherwise, however much they may wish to be so.

The great need is for somebody who can concentrate on this business of rural health—someone with a full appreciation of the countryman's personality and difficulties, someone who can make a full-time job of it, who has the vision splendid of an unlimited ideal, and who has the necessary personality to advise, inspire and drive local boards into a progressive policy.

So I find the solution in this: that the Central Board needs an addition to its staff of a rural health officer, whose duty will be to visit and advise continually rural boards of health and local health officers; who will assist with, even devise, schemes for local abattoirs, herd testing, drainage and water schemes; who will investigate promptly and take steps to localize epidemics; who will organize and continually maintain education of teachers and the public, and public health propaganda. He would at the same time supervise with the private medical attendant all tuberculosis contacts, weakly and crippled children; and he may well act as country organizer for the national fitness campaign. And one could with very little thought add many other things he could do. This man will need to be somewhat of a paragon. It is essential that he understand rural mentality and conditions. To do that he must have had many years of practice in the bush; he should have had (I almost say he must have had) local board experience, not merely medical officer of health experience. He should have a diploma in public health, although that is not so necessary, as he can always go to the experts. He will need to be something of a bacteriologist and expert in the diagnosis of preclinical tuberculosis. He must have some of the vision splendid, and he must have tact and powers of persuasion beyond the ordinary. And he must have sufficient independence of thought and spirit to survive the strangling delay and irritations of official red tape. I would almost add that he must be expert at the typewriter. The most important qualification is the first—a thorough understanding of the rural conditions, mentality and outlook.

It would not be a pleasant job. The man would never be at home, never more than a few days in one place, a commercial traveller without the commission; and the mass inertia of a hundred local boards (for do not imagine that I think they are all so direly afflicted) would be heartbreaking for a year or two.

On this account the salary would need to be a really large one—at least £1,200 a year. Add to this another £1,500 for his overhead expenses and you have £2,700, which sounds a lot of money. But it is not. It is twenty-one guineas, the price you ask for many an appendicectomy, from every local board outside the metropolitan area. In Port Lincoln this would be a special health rate of one-twentieth of a penny in the pound; and this should be a fair average, I think. Which is surely a trivial price to pay for what might come of it. I know this all sounds visionary, but I leave it with you.

Reports of Cases.

INTESTINAL OBSTRUCTION ASSOCIATED WITH MECKEL'S DIVERTICULUM.

By ROBERT S. LAWSON, M.S., F.R.C.S.,
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Hospital.

Cases of Meckel's diverticulum are sufficiently uncommon to be a source of interest whenever they occur, particularly in view of the varying ways in which this abnormality may cause trouble when it is present. In the following case strangulation of a long loop of small bowel was caused by a band arising from the diverticulum, and it is probable that intestinal obstruction so caused is the commonest manifestation of a Meckel's diverticulum, though there were other unusual features in the present case, as will appear.

Clinical Record.

J.S., a male, aged eighteen years, was admitted to the Royal Melbourne Hospital at 1 p.m. on Sunday, April 16. He stated that he had wakened from sleep at 2 a.m. on that day, with severe generalized abdominal pain accompanied by vomiting. He had been perfectly well when he went to bed the night before. The pain persisted and he had no more sleep, but later it eased slightly and appeared to shift to the right lower quadrant of the abdomen. At 6 a.m. he had a cup of tea, but immediately vomited again. The pain in the right lower quadrant remained constant and severe, and he was afraid to move. The bowels had been opened the day before, and after the onset of the pain he passed a motion that was normal, though soft, at 7 a.m. There were no urinary symptoms.

On admission to hospital the boy was obviously in some pain and preferred to lie still. His temperature was 37° C. (98.4° F.), his pulse rate 54 per minute, and his tongue was clean. His heart and lungs were normal. The abdomen moved with respiration, but great tenderness was present in the right lower abdominal quadrant, and a bulging sausage-shaped mass was visible and palpable there; it was very tender on palpation and dull to percussion. Rectal examination revealed no abnormality.

A diagnosis of intussusception was made, but it was thought that the mass might be a volvulus of the small intestine in the ileo-caecal region. Immediate operation was advised.

Operation was performed at 3 p.m., under ether anaesthesia. The abdomen was opened by a right paramedian incision and a large amount of serosanguineous fluid welled forth when the peritoneal cavity was opened. Black coils of distended strangulated small bowel then presented—evidently the "bulging sausage-shaped mass" which had been felt through the abdominal wall. A tight band around the mesentery at the root of the strangulated coil was found and divided, and it was then discovered that this band came from the apex of a Meckel's diverticulum. Its distal attachment was to the posterior surface of the mesentery of the terminal part of the ileum, and the strangulated loop, comprising about three feet of small bowel, extended from a point two feet above the diverticulum to within one inch of the ileo-caecal junction; it included the diverticulum itself, which, like the rest of the strangulated loop, was black and gangrenous. The diverticulum had a calibre equal to that of the bowel from which it arose, and was about three inches long. No pulsation was noticed in the vessels of the mesentery beyond the point of strangulation.

Resection of the gangrenous bowel with closure of the two bowel ends was performed. The length of viable ileum remaining attached to the ileo-caecal junction was so short (less than one inch) that it was left only as a stump on the side of the caecum when the end was closed. In fact, the base of the appendix was obstructed by the outer layer of sutures and the appendix was therefore removed. Side-to-side anastomosis was then performed between the

side of the ileum and the anterior band of the caecum, with a few outlying sutures to guard against any kinking and to ensure a smooth curvature in the ileum around the base of the caecum. The mesenteric gap was then repaired and the abdominal wound was closed, a small drain being left in the rectus sheath only.

The patient showed some evidence of shock for a few hours after operation, but thereafter convalescence was uneventful.

Comment.

In this case the Meckel's diverticulum, together with its band attached to the terminal part of the ileum, formed a wide noose through which a comparatively long coil of bowel was snared before the noose became tight enough to cause strangulation. The attachment of the distal end of the band to the mesentery of the ileum, instead of to the umbilicus, as is more usual, was responsible for this, and the severity of the strangulation thus caused was shown by the fact that the bowel loop was quite gangrenous after the relatively short interval of about thirteen hours which elapsed from the onset of symptoms to the time of operation. The slow pulse rate which often seems to accompany an obstruction is notable.

A CASE OF PRIMARY GLOSSO-PHARYNGEAL NEURALGIA.

By T. BOYD LAW,

Honorary Ear, Nose and Throat Surgeon, Base Hospital, Lismore, New South Wales.

THE following case illustrates the typical symptoms of that comparatively rare entity primary glosso-pharyngeal neuralgia, and falls into the category of those neuralgias which are amenable to simple surgical section of the extracranial portion of the nerve.

Clinical Record.

Mrs. P., aged seventy-six years, first complained of severe pain in the left side of the face and neck in March, 1938. At that time I saw her in consultation with Dr. L. Roberts, who stated that she had been having severe spasms of pain for some weeks.

At the beginning of her illness the pain was felt in the vicinity of the left tonsil and radiated into the neck in the direction of the hyoid bone and up into the face. It was of a spasmodic nature, and when the spasms came the patient would suddenly clutch the side of the neck and remain racked with pain for perhaps ten seconds. The spasm would then pass off and she would be free of pain but filled with apprehension for the next spasm, which she knew would surely come. She stated that at times the spasm was brought on by the act of swallowing.

A careful examination of the mouth, pharynx and larynx revealed no organic lesion which might be the foundation of these attacks. It was observed that when the tonsil or its immediate environs were touched with the tongue depressor or finger she immediately had a severe paroxysm of pain. This trigger zone was always constant. The patient was treated medically; "Veramon" tablets were given, sometimes twice daily, and occasionally 11 milligrammes (one-sixth of a grain) of morphine. Other measures to improve her general health were undertaken, the possibility of a deficiency of vitamin B being kept in mind; gradually there was an improvement, and the patient gained a state of comparative comfort, interrupted from time to time by short periods of neuralgic pain.

In January, 1939, Mrs. P. was again subjected to a severe attack. Quite suddenly the condition manifested itself again; but this time the paroxysms were more severe and almost continuous, and it was difficult to produce any degree of relief with anything short of continuous narcotization. It was noted at the time that morphine, which was given when "Veramon" failed, was always followed by cyanosis. Examination still revealed no evidence of any organic lesion, and the same trigger effect was elicited from the left tonsil fossa. The distribution of the pain was now more widespread, affecting more and more the side of the face.

The patient was again treated medically, but with little success; her life was becoming burdensome with the constant paroxysms of pain, and she became quite depressed. As there was no sign of abatement of the condition this time, it was decided, in spite of the patient's age, that a section of the ninth nerve was indicated. The operation was performed by Dr. L. Roberts. Anaesthesia was produced by regional infiltration with a 0.5% solution of "Novocain", preceded by morphine and hyoscine. A little oxygen was given at the termination to counteract the premedication which again produced cyanosis. The nerve was isolated just before its entry into the hyoglossus muscle, sectioned, and the proximal end avulsed. The patient bore the operation very well. The following day she was quite free of pain. She complained of some difficulty in swallowing, a condition which persisted for about a week, and her speech was somewhat thick. Nevertheless she left hospital on the eighth day, free of pain, and has remained free of pain ever since, and at the time of writing is enjoying life.

Comment.

The symptoms and signs in this case follow closely the admirable description of the condition by Professor Henry Cohen in *The Journal of Laryngology and Otology* of August, 1937.

Reviews.

MANIPULATION IN TREATMENT.

A THIRD edition of "Treatment by Manipulation", by A. G. Timbrell Fisher, has been published.¹

The monograph has been revised and extensively rewritten, with the addition of new chapters upon "The Cult of Osteopathy" and "Prevention of Adhesions". This involves the enlargement of the book by about fifty pages.

The object of the book, as stated by the author in the first edition, has been to draw the attention of the medical profession again to the value of manipulative treatment in selected cases, to the sequelae of injuries and diseases particularly affecting the joints, muscles, tendons and fasciae.

The general impression gained from a study of the monograph is that the author overstates the importance of movement, and belittles the great principle of rest in acute or subacute inflammatory conditions. This may perhaps be deliberate in order to emphasize his points; but, for instance, the statement that the joints should be put through their full range of movement during the acute stage of rheumatoid arthritis seems rather unusual, and again most surgeons today are opposed to the Willems treatment by movement in acute suppurative arthritis. Notwithstanding the chapter on the dangers of manipulation in unsuitable cases, we think that these dangers are not sufficiently emphasized, and especially is this so in regard to the elbow.

Apart from these small points, however, the monograph is very well written and arranged and, like all this author's writings, bears the stamp of originality. The chapter on pathology is especially good, and so also is the newly added chapter on the prevention of adhesions; the latter contains accounts of some original work.

The different joints are dealt with *seriatim*, and the section on the knee joint, as one would expect, is particularly good, especially as the value of and indications for this type of treatment in knee conditions are not generally understood.

The contentious subject of the sacro-iliac joint is well dealt with, and a short but clear explanation of the mechanism of sacro-iliac and lumbo-sacral strain is given.

There is a wealth of illustrations bringing out important points in anatomy and pathology of joints, and explaining the technique of treatment. Altogether the book can be recommended to the practitioner, and more particularly to those dealing with orthopaedic surgery.

¹ "Treatment by Manipulation in General and Consulting Practice, being the Third Edition of 'Manipulative Surgery'", by A. G. T. Fisher, M.C., M.B., Ch.B., F.R.C.S.: 1939. London: H. K. Lewis and Company Limited. Demy 8vo, pp. 270, with 65 illustrations. Price: 12s. 6d. net.

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Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

THE QUEENSLAND NUTRITION COUNCIL.

It is a poor reflection upon the present state of our civilization that hospitals and other sickness services involving vast expenditure of public funds have to be maintained year after year to remedy many ailments that would not arise were the present knowledge of preventive and constructive medicine universally applied. Preeminent among the recent advances in constructive medicine is the discovery of the role which proper nutrition must play in the development and maintenance of health. Coincident with this discovery we have the somewhat bald but arresting statement of the League of Nations Nutrition Committee that the average civilized diet is inadequate; and the recent inquiry of the Commonwealth Advisory Council on Nutrition has confirmed that statement as far as the diet of the Australian people is concerned. Furthermore, this inquiry was conducted on a basis of average minimum requirements. No attempt has ever been made to assess the percentage of our population whose diet falls short of optimum requirements. The fact that quite a significant

percentage of Australian people are living on diets below the average minimum assumes greater significance in the light of two other considerations: first, that with the exception of the Argentine Australia produces more food per head than any other country in the world; and second, that the cost of sickness and invalidity in Australia has already become greater than we can afford to pay.

The next great advance in public health will surely come as the result of a concerted effort to apply to the mass of the population the results of scientific research in nutrition. The Commonwealth Advisory Council on Nutrition has shown, however, that nutritional deficiency in Australia is one of quality rather than quantity; and that the nutrition problem resolves itself largely into one of extended public education and further research. In this direction those responsible for the activities of the Queensland Nutrition Council have blazed a path of progress which other States could follow with advantage. Over the past three years this organization has carried on an active public education campaign in the field of nutrition. Broadcast sessions, in which a dramatized technique of radio presentation on lines similar to those employed by the Bureau of Health Education of the American Medical Association is used, have been presented regularly twice a week. Over two hundred and sixty original sessions have been produced. Frequent articles have appeared in the metropolitan and country Press, in addition to a six-page annual nutrition supplement in the *Courier-Mail*. The council has published a menu-planning chart and a year book, each of which has been widely distributed; and several courses on the fundamentals of nutrition have been arranged for various groups. At present the council is conducting its second annual home nutrition course. This consists of a series of ten lectures and practical demonstrations in the simple but attractive application of the principles of nutrition to everyday cooking and meal preparation. It is designed primarily as one unit of a more comprehensive home assistants' course, conducted by the Mothercraft Association of Queensland, and covering mothercraft, housecraft, home nutrition, child management, home first

aid and home nursing. The British nutrition film, adapted to Queensland conditions, is at present on its second tour of the State. It was purchased jointly by the Queensland Nutrition Council and the Post-Graduate Committee of the Queensland Branch of the British Medical Association.

Already the effects of this education have been noticed in the widely recognized changing food habits of Queensland people. Precise figures are difficult to obtain, but commercial interests report a considerably increased demand over the last three years for milk, fruit and salad vegetables, as well as a specially prepared wheat-germ bread and whole-meal bread. Corresponding figures for other States do not reveal similar changes. As the years go by this widespread nutrition-consciousness must have a reflection in the health picture of the Queensland people. In this issue there appears a report of the council's research into the vitamin C content of Queensland fruit and vegetables, its rate of destruction under ordinary conditions, and the effect upon it of various storage and cooking treatments. This is the only vitamin research on this scale so far attempted in Australia, and is a meritorious effort which other States might do well to emulate. Much further research of this nature into Australia's specific problems is necessary before we can solve our nutrition problem.

Current Comment.

BENIGN CIRCUMSCRIBED PNEUMONIA.

THE great interest shown during recent years in the treatment of pneumonia and the increased use of radiological methods in the study of acute respiratory disease have led to the realization that benign pneumonic consolidation is by no means uncommon. Hugh Ramsay and J. G. Scadding have made one of the most comprehensive of recent reviews of this subject, based upon their observations in a tuberculosis clinic and a general hospital.¹ It is interesting to note that the material actually used in their analysis consists of clinical and radiological studies of ambulant patients attending a tuberculosis dispensary, for in this country also it has been the experience of physicians attached to

such hospital departments that contact patients sometimes report complaining of a mild respiratory ailment, perhaps with pain or slight hæmoptysis, and are found to present radiological evidence of what appears to be a resolving pneumonia. These authors refer to the X ray findings as transient radiographic shadows, thus excluding from their review cases of more serious or persistent pulmonary disease. They report 29 such cases and classify them into three groups: delayed resolution of acute pneumonia, four cases; lobar atelectasis without acute symptoms, four cases; and 21 cases not falling into either of these groups. Acute pneumonia may be slow in resolving, as is well known, but we are not here concerned with this. Lobar atelectasis is possibly more common than has been thought. W. A. Bye in a recent description of massive collapse of the lung in this journal has pointed out that Australian experience would indicate that this appears to be very uncommon. Minor degrees of lobar collapse, especially in children, are, however, less uncommon, and radiologists not infrequently enlighten clinicians on this point. The third category is the most important, and, in the opinion of Ramsay and Scadding, includes cases of true though transient consolidation of the lung. The symptoms in these patients were insidious in the majority of cases, and not very severe. Cough was always a feature of the illness, and there was usually some sputum, which was occasionally blood-stained. Shortness of breath was sometimes noted, and a definite degree of malaise and lassitude was also common. The radiological appearances were those of opacities, rather homogeneous and moderate in density and shading off into the normal lung markings. They were most commonly seen in the lower lobes. These shadows completely disappeared in every case after a period of a few weeks, less than six to eight as a rule. Numbers of other writers have described this condition. During epidemics of catarrhal infections, influenza and the like, similar cases have been frequently observed, in which the radiological evidence of pneumonia was curiously at variance with the relatively mild clinical signs. Sometimes no abnormal physical signs have been detected; sometimes, however, there have been alterations in the percussion note, or breath sounds and the presence of moist accompaniments. The terms "atypical pneumonia" and "benign bronchopneumonia" have been used to describe the condition until more recently, when other writers have advocated the use of the name "pneumonitis". Ramsay and Scadding prefer the name "benign circumscribed pneumonia" as being more truly descriptive. Many general practitioners, without the radiographic assistance available to physicians on the staff of general hospitals, have recognized cases of this kind, and men with many years of experience behind them have therefore been known to express the opinion that if all cases were taken into consideration, pneumonia was not so lethal a disease as it was often represented. However, we

¹ *The Quarterly Journal of Medicine*, April, 1939.

must remember that radiographic studies have proved that many such cases exist in the complete absence of physical signs in the chest, so that the really important point hinges not so much on the prognosis of the patient, who will almost surely recover completely, but on the interpretation that is likely to be made of the shadows seen in the X ray films of his lungs. We know that an early exudative tuberculous process in the lung may present the radiographic picture of circumscribed consolidation, and Ramsay and Scadding point out that there is a considerable literature extant dealing with the differential diagnosis of this lesion.

The arguments concerning "epituberculosis" may here be recalled. The present writers state that by correlating their cases to recent catarrhal infections, by confirming the rapid resolution of the lesions and by failing to find tubercle bacilli in the sputum they have satisfied themselves that the lesions were non-tuberculous in all their quoted cases. But it is easy to see how a young patient, especially if a contact with a relative suffering from pulmonary tuberculosis, might unjustly be labelled as tuberculous. Ramsay and Scadding refer to the experimental work on pneumonia in animals and point out that there is good reason for believing that benign bronchopulmonary inflammations may arise by aspiration of infected material originating in a catarrhal infection in the upper part of the respiratory tract. They conclude that benign circumscribed pneumonia is of frequent occurrence and therefore is of some importance. They further remark that Maxwell, who regards these lesions as a pneumonitis, has suggested that there may be a connexion between them and primary lung abscesses, whose aetiology is often obscure. It is refreshing to be reminded that Laennec, the inventor of the stethoscope, wrote in 1826 that abscesses of the lung might arise from "*péri-pneumonies partielles*".

Finally the authors state the following belief, referring of course to the type of case under discussion: "That the radiogram is never sufficiently characteristic to justify a dogmatic diagnosis of pulmonary tuberculosis without supporting evidence and without a period of observation." Some modified generalization of this statement should, like the historic example of Calais in the case of a famous English queen, be found engraved on the heart of every conscientious physician and radiologist.

THE DIAGNOSIS OF BRUCELLOSIS.

THE story of undulant fever is an interesting one. Originally this fever was thought to be confined to the inhabitants of the East, the West Indies, and in particular the Mediterranean littoral. It was remarked that the native population was less affected by the disease than the Europeans who came there to live, the accepted explanation being the

higher immunity acquired by the local inhabitants. Bruce's researches in Malta showed that the infection was spread by goat's milk; but at that stage in medical history Australian students at least regarded the disease as one that was described in text-books but was as remote as sleeping sickness or kala-azar. Soon, however, it was shown that Bang's *Bacillus abortus*, now known as *Brucella abortus*, was very closely related to the *melitensis* group, and the realization came that this infection in one or other of its forms was world-wide in distribution. The name brucellosis is now generally used, and clinicians should keep in some handy pigeonhole of memory the facts that cases do occur, that they are not necessarily severe, though often associated with recurring sweats and rigors, that they may be prolonged, and that in occasional cases they may simulate rheumatic or rheumatoid arthritis. In the hope of recognizing the infection, or rather in order to obviate missing the correct diagnosis, many pathological laboratories now include an agglutination test against the commoner *abortus* strains in all cases in which the suspicion arises of typhoid or similar continued fever. Some knowledge is therefore desirable as to the value of laboratory diagnosis. It is known that the infection of milk by *Brucella abortus* is common, and also that human immunity is apparently very high, judging by the relative rarity of the disease. This immunity does not seem to depend on or to be associated with an invariably high antibody titre in the blood. Early workers in Malta observed that only in a small percentage of dock-workers was a serum agglutination test obtained, although as we know now, it is probable that a high proportion of them were exposed to infection.

E. E. Menefee and Mary A. Poston have been working on the laboratory tests for brucellosis and arrive at some interesting conclusions.¹ They carried out skin sensitivity tests with the appropriate bacterial protein, agglutination tests against standard strains, and estimations of the opsonic phagocytic index. Some of these tests were applied to hospital patients who were suffering from either brucellosis or some quite independent disease, but the bulk of the observations were carried out on healthy students. These latter were tested for skin sensitivity, and out of 1,122 students, 127, or a little over 11%, reacted to the bacterial protein. These reactors were subjected to further tests. It is interesting that in a number of cases severe reactions were observed. Not only were the local skin reactions sharp and well defined, but in one instance local sloughing occurred. Lymphangitis or tender lymph glands were observed in one-third of the cases, and a few students suffered quite severe general reactions. Such skin tests would therefore appear to be not entirely devoid of risk. Menefee and Poston found a definite relation between the presence of a skin reaction to *Brucella* and the consumption of raw milk; but no relation could be

¹ The American Journal of the Medical Sciences, May, 1939.

established between the degree of reactivity of the skin and the antibody content of the serum. A number of those who were strikingly allergic to the bacterial protein showed no evidence of any immune body in their serum, although agglutinins appeared later in response to the intradermal antigen. An interesting finding was that this antibody production was considerably enhanced by the simultaneous injection of a stock typhoid vaccine, an effect observed after any comparable febrile reaction. The portion of this work most interesting and important to the bedside workers concerns the reliability of the serum reactions in diagnosis. A definite agglutination test which persists in fairly high dilutions of serum is, of course, reliable, and in the presence of suggestive signs and symptoms gives warrant to a diagnosis of brucellosis. But the failure of the serum to respond to this test does not exclude this diagnosis. In other words, when the clinical pathologist, in the argot of the laboratory, reports that all the tests are negative, the physician still may have to decide whether he can exclude the disease or not. Admittedly this may not often occur, but it is an exact parallel with our experience with every other immunological laboratory test, and the tendency to transfer the whole diagnostic responsibility to the shoulders of the pathologist is not only unfair but unscientific. Menefee and Poston quote one remarkable case in which an intermittent fever existed for eleven months; all laboratory tests failed to indicate the source of infection until an enlarged lymph gland was removed and *Brucella abortus* was cultured from it.

It is constantly hinted that the day of clinical acumen is passing; but surely the truth is that the laboratory worker is stimulating us more and more to observe more closely and to apply the laws of inductive and deductive reasoning to bedside studies.

THE MENTAL AND EMOTIONAL EQUIPMENT OF ALLERGIC CHILDREN.

THERE is a certain idea prevalent among physicians that allergic persons are possessed of a mental ability above the average. With curious illogic the statement is often made: "Look at A and B, they are brilliant people, and they both suffer from asthma." Incidentally it may be remarked that A and B mentioned in this conversational way are usually medical practitioners. Certainly there is a widely held opinion that allergic children are well endowed intellectually, often members of small families, much in the company of devoted relatives, and emotionally rather unstable. The subject is not new; it has been investigated by a number of observers, but with divergent results. R. Chobot, R. Spadavecchia and R. M. de Sanctis, the first of whom is a medical graduate, being impressed with the lack of agreement in previously published

observations, studied 169 children in the New York Post Graduate Medical School and Hospital.¹ They point out that Balyeat in 1929 adduced evidence in favour of the view that allergic persons were of superior mental ability, but in 1937 Pinness and others repeated the inquiry and could not confirm Balyeat's results. A difficulty arises from the diverse nature of the intelligence tests suitable for children of different ages, but this disappears if adequate controls are employed. The ages of the children tested ranged from five to fifteen years, and in all 169 children were studied. Standard psychological tests were used, appropriate to the various age groups, and intelligence quotients were determined. Analysis of the results obtained showed that the allergic children showed "no direct evidence of special proficiency or deficiency in any field of educational endeavour", but that the children displayed just such variations in mental powers as may be found in average children. The controls were drawn from the schools of the city of New York, and presumably represented a fair sample of comparable children of the age groups concerned. It would seem, therefore, that the allergic children were found to be neither retarded nor advanced as compared with other non-allergic children. The little allergic patients ranged from the mentally inferior to the mentally superior; but the percentage distribution of their intelligence quotients corresponded closely with the percentages found of non-allergic children in each intellectual level.

Inquiry was also made into the personalities of the allergic group. Without being influenced in any way, the children were asked to answer questions or to comment on statements prepared as a test of their emotional reactions to their surroundings. Thus a measure was sought of (a) ascendancy or submission, (b) extroversion or introversion, and (c) emotional adjustment. On the whole it was found that allergic girls were emotionally more stable and better adjusted to their environment than allergic boys. No very definite conclusions could be arrived at with regard to their personalities; but in general the group of allergic children showed a slight tendency towards submission and introversion. This is not surprising, and it might perhaps be remarked with justice that similar studies carried out on the relatives of allergic children might afford some interesting material.

INVESTIGATION OF THE JAUNDICED PATIENT.

THE investigation of the jaundiced patient has recently been discussed by H. B. Moffatt. Though he presents nothing new, his paper is full of interest and should be brought to the notice of readers of this journal.

¹ American Journal of Diseases of Children, April, 1939.

He insists first of all that intrahepatic must be clearly differentiated from extrahepatic jaundice, the former being a medical and the latter a surgical problem.¹ From a clinical point of view jaundice may be classified as belonging to three main types—*hepatogenous*, *haematogenous* and *obstructive*. *Hepatogenous* or *intrahepatic* jaundice is solely a medical problem, as surgery cannot alleviate the condition. It is essential to distinguish between simple *catarrhal* jaundice, *acute* and *chronic hepatitis*, *toxic* conditions and *drug effects*. *Toxic* conditions include *toxæmia of pregnancy* (*eclampsia*), *thyrotoxicosis* and others. Moffatt rightly observes that *drugs* as *toxic agents* may be very puzzling. *Cinchophen*, *antisyphilitic arsenicals* and *sulphanilamide* are conspicuous offenders. *Bacteriological investigation* may be required to exclude *yellow fever* and *Weil's disease*. *Carrots*, when taken in excess, may produce *carotinæmia* with jaundice. *Surgically* the *haematogenous* type of jaundice is one condition whose three names emphasize the outstanding points in the diagnosis. *Familial jaundice* is a lifelong condition transmitted through members of the same family. *Hæmolytic jaundice* is characterized by fragility of the red blood cells, and a *microcytosis* and *reticulocytosis* are also present. The term *acholuric jaundice* indicates the absence of bilirubin from the urine; the *feces* are not clay-coloured; the *liver* and *spleen* are generally enlarged and smooth. Moffatt gives a warning that while *cholecystography* may indicate a non-functioning gall-bladder, and *gall-stones* may be present, *surgical attack* upon the gall-bladder will not relieve the jaundice, although *splenectomy* will do so.

In *hæmolytic jaundice* the *Van den Bergh reaction* is persistently indirect, with two exceptions—when *hæmolytic jaundice* is due to *obstruction* in the common bile duct owing to *extreme viscosity* of the bile and when *pigment stones* produce *obstruction* in the common bile duct. *Serum bilirubin* is slightly increased up to 10 milligrammes per 100 cubic centimetres of blood. *Duodenal drainage* reveals a free flow of bile and is valueless in diagnosis. *Splenectomy* is curative of *familial jaundice*, and in children there is not even an *icteroid tint* three weeks after operation. *Obstructive jaundice* may be due to *calculus*, *cicatrix* or *cancer*. In *obstructive lesions* *bilirubinuria* is always present, and all such lesions are accompanied by an increase in the concentration of *serum bilirubin*, and a *direct positive Van den Bergh reaction* is always obtained. In *calculus* the *duodenal tube* as a rule brings a fairly free flow of bile, the amount fluctuating with repeated daily attempts. Moffatt considers that the presence of *cholesterol* with *calcium bilirubinate crystals* is pathognomonic of *calculus*. *Pigmentation* of the *feces* is apt to vary when a stone is causing *obstruction*. *Bile pigment* is present in the urine, and *bile salts* can be demonstrated. The amount of *serum bilirubin* in 100 cubic centimetres of blood,

if estimated daily, fluctuates when a stone in the common duct is the cause of the obstruction. *Colic* is followed by a sharp increase of *serum bilirubin*; when the obstruction is released an equally sudden decline is noted. Moffatt considers that *surgical risk* is lowest when the *bilirubin curve* is stationary or rapidly falling. When *cicatrices* or *strictures* are the cause of common duct obstructions the *duodenal tube* will demonstrate that the *biliary flow* is persistently scanty. *Pigmentation* of the *feces* is slight or absent, and *light clay-coloured stools* are invariable. *Bilirubinuria* is constant, while the amount of *serum bilirubin* in the blood shows a fixed low curve. This is due to the onset of *biliary cirrhosis*.

Cancer or *neoplasm*, such as *adenoma*, at *Vater's ampulla*, or *papilloma*, may produce *obstructive jaundice*. Moffatt remarks that in 2,500 autopsies reported by *Shapiro carcinoma* of the extrahepatic bile ducts was three times as frequent as *cancer* of the head of the pancreas. In *carcinomatous obstructions* the *duodenal tube* does not withdraw any bile; the stools are invariably clay-coloured. *Bilirubinuria* occurs constantly in all obstructive lesions. A *secondary anaemia* with *macrocytes* is often observed. As *carcinoma* generally causes complete obstruction, high and rising curves of *serum bilirubin* per 100 cubic centimetres of blood are usually noted on the graphs. *Hydrohepatosis* results when the obstruction is not relieved. This is followed by infection of the *parietal sacculi* and deep implication of the *hepatic parenchyma*. If removal of the obstruction is not effected too late, there will be rapid recovery, but *hepatic insufficiency* and *hæmorrhage* militate against successful surgery. A comparison of the curves of *serum bilirubin* shows that *calculus obstruction* has a fluctuating curve; in *cicatricial obstructions* there is a fixed low curve, while in *carcinomata* there is a rising high curve. *Liver function tests* are valuable in the establishment or confirmation of a diagnosis made clinically; they also indicate the risk of operations. The *Van den Bergh test* when described as "direct positive" indicates jaundice due to obstruction and is a favourable indication of surgical operation unless severe *intrahepatic damage* exists. The only condition in which an "indirect" *Van den Bergh reaction* indicates operation is *familial jaundice*. The *glucose tolerance test* is valuable when the patient's urine is sugar-free. The *hippuric acid test* should likewise be performed. In a general way the response to the *hippuric acid test* corresponds with the degree of *serum bilirubin*; but there is very little correlation of the excretion of *galactose* and the synthesis of *hippuric acid*. *Hæmorrhage* as prejudicial to operation in jaundiced subjects requires estimation of the bleeding time, clotting time and *prothrombin time*. It is known that *hæmorrhage* is due to deficiency of *prothrombin*. This results from deficient absorption of its precursor, *vitamin K*. This vitamin is not absorbed when bile is lacking in the intestine.

¹ The Canadian Medical Association Journal, May, 1939.

Abstracts from Current Medical Literature.

PHYSIOLOGY.

Thyroid Stimulation by Cold.

G. C. RINA (*The American Journal of Physiology*, February, 1939) describes experiments showing the effect of long-continued cold upon thyroid secretion. He states that during a short period of exposure to cold the adrenal medulla may be thrown into action and may bring about a raised metabolic rate, and that there is considerable evidence that the thyroid gland also becomes more active if the cold is continued over a long period of time. Although it is generally agreed that prolonged life in the cold brings about structural changes in the thyroid, this does not prove that increased release of the hormone and stimulation of metabolism occur. In order to elucidate this matter the author obtained simultaneous records of basal metabolism and body temperature of rats living in an environmental temperature of 30° C., and similar records after the animals had had first a brief and secondly a prolonged exposure to cold (from 0° to 5° C.). Rats do not regulate body temperature well; it is not surprising, therefore, that after they have been exposed to cold their temperatures usually overshoot the normal level. From results obtained in this way, however, it is possible to calculate a factor which will correct metabolic measurements for change in body temperature. Rats which lived for three weeks or more at 0° to 5° C. developed an average elevation in metabolism of 21%. Corrected for changes in body temperature, this figure becomes 16%. The author believes that he has shown that this increased metabolism is brought about largely, if not entirely, by the thyroid gland, and further, that nervous pathways through the superior cervical ganglia are not essential for bringing about stimulation of the thyroid gland by cold.

Gonadotropic Extracts from Green Leaves.

MAURICE H. FRIEDMAN and GERTRUDE S. FRIEDMAN (*The American Journal of Physiology*, March, 1939) have extracted from the dried leaves of immature grasses a fraction which is capable of producing ovulation when injected into rabbits. The author states that qualitative or quantitative restriction of dietary protein is known to interfere with reproduction. In the rat this disturbance shows itself by an abrupt cessation of the vaginal cycle and the suspension of ovulation and the ovarian cycle as well. Since this syndrome resembles the effects of hypophysectomy, it seemed possible to the authors that dietary proteins contained indispensable precursors

for the formation of the pituitary hormones. A mixture of whole wheat, alfalfa leaf meal and soya bean meal had proved to be entirely adequate for reproduction in the rabbit; the authors therefore decided to search for the postulated precursors in alfalfa leaf meal. Active extracts were prepared, but the commercial alfalfa leaf meal proved very unreliable as a source. The extraction procedure used was based upon the Katzman-Dolsy benzoic acid method for pregnancy urine. For the biological test, in the early experiments the material was injected intraperitoneally or intravenously into sexually mature rabbits and their ovaries were examined forty-eight to seventy-two hours later. In the later experiments rabbits in the *post partum* state were used. For four successive years the authors were able to obtain potent extracts from immature oat grass grown either in Kansas or New Jersey. When the dried plant was stored in the laboratory its activity deteriorated with the passage of time. The authors state that the plant gonadotropin appears to bear some resemblance to the gonadotropic pituitary hormone, but admit that their product has not been prepared in the pure state, and that the existence of gonadotropic substances in plants does not prove that they are physiologically important. They may be merely pharmacological oddities.

Homeostasis in the Dog after Sympathectomy.

FLORENCE KUAUF McDONOUGH (*The American Journal of Physiology*, March, 1939) describes experiments comparing dogs after sympathectomy with normal dogs in regard to their ability to resist heat and cold, anoxemia and insulin hypoglycemia. Several investigators have shown that cats lacking the sympathetic nervous system show: (a) a lessened ability to withstand high and low external temperatures, (b) subnormal resistance to anoxemia, (c) an increase in sensitivity to the injection of insulin, (d) a lack of compensatory reactions to successive hemorrhages, and (e) a diminished capacity for muscular exercise. On the other hand, studies on dogs which have been subjected to sympathectomy have emphasized the normal appearance and behaviour of these animals. Because of the apparent difference after sympathectomy in the adjustment of the two species to emergencies, the author thought it desirable to study more thoroughly the role of the sympathetic system in the regulation of homeostasis in the dog. She found no noteworthy difference in reactions to heat or cold between normal dogs and those which had undergone sympathectomy. She also found that dogs after sympathectomy were able to endure an oxygen tension of 6% for five hours as well as normal contacts. But in their reaction to injected insulin the animals which had been operated on differed considerably from the

normal animals, showing a greater decrease in blood sugar content and a more frequent occurrence and greater severity of hypoglycemic symptoms after administration of standardized doses of insulin. The remarkable ability of dogs after sympathectomy, as compared with cats subjected to the same operation, to endure unfavourable environmental conditions is discussed. It is attributed to the numerous accessory physiological devices, not under sympathetic control, that are possessed by the dog as a running animal: larger lungs and heart per kilogram of body weight, greater blood volume, higher hemoglobin content, abundant salivary flow and a long tongue for heat loss, and a common resort to shivering for heat production. In insulin hypoglycemia these devices are unavailing; then the effects are similar in the two animals.

Electrophoretic Mobility of Erythrocytes.

HAROLD A. ABRAMSON, ROBERT F. FUCHSGOTT and ERIC PONDER (*The Journal of General Physiology*, March, 1939) record measurements of the electrical mobility of washed rabbit red cells and of ghosts produced by hypotonic solutions, by freezing and thawing, by chloroform and by saponin. These measurements were made in the Abramson horizontal microelectrophoresis cell. Between 1929 and 1934 Abramson carried out many similar measurements and found that after hemolysis by water the mobility is unchanged, as it also is if lysis is produced by small quantities of saponin, or by small amounts of complement. He therefore concluded that hemolysis can occur without necessitating a radical change in the chemical constitution of the surface, and he put forward the idea that for hemolysis to occur it may be necessary to affect only certain "key spots", occupying only a very small portion of the cell surface. In their present experiments the authors found that different forms of lysis, corresponding to a variety of degrees of injury to the red cell, were unaccompanied by any change in electrical mobility. The watery ghosts have a resistance and capacity virtually the same as that of the intact cell, although over a period of minutes they are permeable to cations; on the other hand, they are impermeable to hemoglobin and exhibit the typical biconcave form of the mammalian red cell. The author suggests that this form of lysis is the result of the stretching of the cell beyond its normal area and that the permeability to pigment which results is followed by some sort of repair process. The freezing and thawing ghosts and the chloroform ghosts lose their biconcave shape and are permeable to hemoglobin. The saponin ghosts are roughly spherical. Two lines of speculation suggest themselves to the author; the first of these is Abramson's key spot hypothesis, which suggests that lysis

results from the breaking down of certain key spots in the cell membrane. The second depends on the hypothesis that the cell membrane has an outer tangentially arranged network or lattice of protein, within which are radially arranged layers, first of lipid and then of protein. It is possible that it is the outer protein layer, with its polar groups, which is responsible for the electrical mobility, while lysis results from the destruction or disorientation of the more deeply seated non-polar lipid layers. In the author's opinion all the lytic agents considered may leave the layer responsible for the electrical mobility relatively untouched. He also states that the red cell ghost apparently does not adsorb a layer of saponin, as do oil and quartz particles, and that it is the only surface hitherto investigated which does not adsorb gelatine; it has in fact quite special qualities.

BIOLOGICAL CHEMISTRY.

Calcium Requirements of Adult Men.

E. C. OWEN (*The Biochemical Journal*, January, 1939) has estimated calcium and phosphorus balances in ten adult men of ages ranging from thirty-two to sixty-six years. Two diets were used: a preliminary low calcium diet, followed by a diet of higher calcium content. Only normal foodstuffs were used. On the lower calcium diet, with an intake of 524 milligrammes of calcium per day, the subjects as a group were practically in equilibrium. On the higher calcium diet, with an intake of 879 milligrammes of calcium per day, positive balances were observed in all except one subject. The results indicated agreement with earlier work, that the requirement for maintenance is about 500 milligrammes of calcium per day. The calcium requirement for older males is thus much the same as that of young adults, and therefore the effect of long subjection to a diet low in calcium is not offset by increasing age. Similarly, older subjects resembled the young adults in that calcium was readily retained when the dietary intake was increased. The possible bearing of these results on the aetiology of senile osteoporosis is discussed.

Determination of Glucose Tolerance.

C. WALLACE ROSS (*Archives of Disease in Childhood*, December, 1938) discusses the determination of glucose tolerance and points out that the results of oral tests must be criticized in the light of general considerations. Rest decreases glucose tolerance and exercise increases it. A diet of high carbohydrate value increases tolerance in healthy subjects. Fasting lowers glucose tolerance and may produce a condition of hunger diabetes associated with glycosuria. The importance of

the factors of gastric emptying and intestinal absorption of the test dose suggests that in certain disorders of the absorptive mechanisms the information gained by this route may be misleading. A method was devised whereby a dose of 20% glucose in normal saline solution was given intravenously, and blood samples were taken frequently over a period of one hour. The doses given were five grammes for patients under 10 kilograms in weight, 10 grammes for those up to 30 kilograms in weight, and 20 grammes for larger children and adults. The extent of the curves was expressed in milligramme-minutes; this figure was the product of the mean elevation of the blood sugar above the fasting level in milligrammes and the time in minutes for which it persisted. The normal in the series tested was found to fall under 3,500 milligramme-minutes. An ultramicro method of estimating the blood sugar was used and described in detail. The results showed three types of curve: the normal, the diabetic, and a flat high curve, remaining above normal for one hour, seen in various types of infection and intoxication. A humped or irregular curve was seen in carbohydrate deprivation or in absorptive disease. The author believes that the results of tests after intravenous injection of glucose are simple to interpret, as they represent only one process, namely, the removal of sugar from the blood. In certain conditions the results obtained after combined oral and intravenous administration of glucose give information as to absorption not available from either source alone, and a table is given of the respective results obtained. Coeliac disease is a notable instance; in this condition the "oral" curve is flat and the "intravenous" curve high and often humped. The author observes that if insulin sensitivity is also estimated, *diabetes mellitus* can with certainty be separated from other common conditions giving curves by both methods.

Antibacterial Sulphones.

G. A. H. BUTTLE *et alii* (*The Biochemical Journal*, July, 1938) have investigated the derivatives of 4:4'-diaminodiphenylsulphone, which had been shown to be more active than sulphanilamide, but also much more toxic. An attempt was made to produce substances with reduced toxicity relative to the antibacterial activity. Certain relations between chemical structure and pharmacological activity were established. None of the derivatives was more active than 4:4'-diaminodiphenylsulphone, but some were almost as active and considerably less toxic.

Methæmoglobinæmia and Methylene Blue.

WILLIAM B. WENDEL (*The Journal of Clinical Investigation*, March, 1939) has presented evidence to show that the principal abnormal pigment in the blood of patients treated with sulph-

anilamide appears to be methæmoglobin. In a series of over 100 patients who were receiving sulphanilamide and showing cyanosis, methæmoglobin was present in the blood, at least in traces (over 3% of the total pigment), in more than 90%; while in 35 cases methæmoglobin was present to the extent of 15% or more of the total pigment. Patients whose functionally active blood pigment was decreased by 15% to 30% were not uncommon. Higher concentrations of methæmoglobin were occasionally found. No correlation was observed between the concentration of sulphanilamide in the blood and the extent to which methæmoglobin accumulated. In experiments with dogs, in which methæmoglobinæmia had been produced by injection of sodium nitrite, the rate of reconversion of methæmoglobin to hæmoglobin was greatly increased by injection of methylene blue. Similarly, in patients with methæmoglobinæmia due to sulphanilamide therapy, intravenous injection of small amounts of methylene blue resulted in rapid conversion of methæmoglobin to hæmoglobin.

Valine and Growth.

W. C. ROSE AND S. H. EPSTEIN (*The Journal of Biological Chemistry*, March, 1939) have shown that valine is an indispensable component of the diet of the rat. The diets used contained nitrogen only in the form of chemically pure amino-acids, except for a small trace of nitrogen in the vitamin B concentrates. Rats fed on the basal diet supplemented with valine grew well and remained in health. Those animals receiving a valine-free diet soon manifested a profound nutritive failure, with rapid decrease in weight and loss of appetite, and developed pronounced nervous symptoms. They became extremely sensitive to touch and displayed a severe lack of coordination in movement, with staggering gait. When valine was administered the nervous symptoms rapidly disappeared and growth was resumed.

Diabetes and Insulin Action.

E. M. BRIDGE AND E. A. WINTER (*Bulletin of the Johns Hopkins Hospital*, April, 1939) have studied diabetic patients in an attempt to correlate insulin action with blood sugar and respiratory quotient. No direct relationship was observed between insulin action and respiratory quotient. The evidence supported the view that hypoglycæmia from insulin overdosage was not due to an abnormal rate of carbohydrate combustion, but in all probability was due to an excessive deposition of available glucose as glycogen in the muscles. The authors considered that the blood sugar level by itself was not an adequate criterion for the determination of the progress of diabetes, and suggest that as well as the blood-sugar fluctuations and ketosis the respiratory quotient and conditions affecting the efficiency of insulin action should receive attention.

British Medical Association News.

SCIENTIFIC.

A MEETING of the Victorian Branch of the British Medical Association was held in the Medical Society Hall, East Melbourne, on June 7, 1939, Dr. F. L. DAVIES, the President, in the chair.

The Constitution, Organization and Activities of the Victorian Branch of the British Medical Association.

Dr. F. KINGSLEY NORRIS, honorary secretary, read an address which had been prepared by Dr. J. P. MAJOR, who was unable to be present owing to illness. The subject of the address was "The Constitution, Organization and Activities of the Victorian Branch of the British Medical Association" (see page 235).

Dr. A. L. KENNY opened the discussion by saying that he had been acutely interested throughout his medical life in the activities of the Victorian Branch and that the address was one of uncommon merit. He added that it might easily have been dry and uninteresting, but Dr. Major had contrived to include in it the history of the organized profession in Australia from the early days; when published it would be worthy of being kept by the members for reference.

Dr. Kenny modestly stated that he was amongst the oldest living members of the Branch. In 1836 he had joined both the Medical Society and the Victorian Branch of the British Medical Association; he had not had any reason to cease membership and had been keenly interested in their activities. Having joined so long ago, he had been brought into touch with many older members. He could remember when meetings were held in private houses; they were convivial meetings, but served to advance clinical work. He had always claimed to be one of the pioneers of the federation of the several Branches in Australia. When he was on an excursion around Sydney Harbour during the first medical congress in Sydney in 1892 with Dr. Jenkins and Dr. Crago, at that time honorary secretary and treasurer respectively of the New South Wales Branch, they had discussed the project of amalgamating the Branches, and at the congress held at that time the first agreement was arrived at to get a medical journal common to the States. Dr. Major had described *The Australasian Medical Gazette* as having died of inanition, but he could remember that that was not the case. The publisher had kept it going and had taken it with him to New South Wales, where he had established a surgical instrument shop; the paper had been taken away bodily by the publisher from Melbourne; it did not die, though the organization that had founded it had died. Dr. Major's reference to the new society that had been formed in 1855 had caused Dr. Kenny to recollect the figure of Dr. Tracy, who was an obstetrician and gynaecologist of very great repute; his name was used in terms of admiration and he had rooms in Collins Street, where the Freemasons' Hall was built subsequently. It might be of interest to members to know that the Mechanics' Institute of the old days later became the Athenæum Hall and then the Athenæum Theatre in Collins Street. Dr. Kenny could remember the library in Bourke Street, which was located near Dwight's book shop. He passed on to speak of the old White Hart Hotel, where Garibaldi was at one time; Garibaldi's son had a pastrycook shop near by. Dr. Major's reference to the setting up of the library at the gate of the Melbourne Hospital reminded him that the gate referred to was a two-roomed house and was a suitable place for the library, as men like Fitzgerald, Maloney and Stirling conducted their practices in Lonsdale Street, within easy walking distance of the hospital, and constantly visited the hospital. The original site given to the Medical Society was not the Royal Society site, but the one where Dr. William Snowball lived, and at a later date it was occupied by the government meteorologist, as at present.

Dr. Kenny related some of the circumstances under which the Victorian Branch of the British Medical Association was formed by Dr. Louis Henry and others. On his return from abroad Dr. Henry had obtained in London authority to establish a local Branch in Victoria. Soon afterwards the colony of Tasmania was included, and the title became the Victorian and Tasmanian Branch.

Dr. J. E. Neild used to claim that some of the other Branches had originated from Melbourne, though the New South Wales Branch was undoubtedly older. Summing up, then, Dr. Kenny said that at one time there existed in Melbourne the Medical Society of Victoria and the Victorian Branch of the British Medical Association; there was a medical branch of the Royal Society and a Branch of the British Medical Association in New South Wales.

Dr. Kenny corrected Dr. Major's reference to one "Hoelskin" by saying that the name should be spelled "Hoelsken", which was the name of a caterer in business in Bourke Street on a site opposite to the Eastern Market; he supplied afternoon teas and catered for the Dorcas Society, and would not be expected to supply good wines. When in 1889 Dr. Kenny had taken over the secretaryship from Dr. Henry Maudsley the Branch was going along fairly well. Dr. Kenny had graduated in 1885, and when in England in 1887 had seen the Lord Mayor's show in the company of the members of the British Medical Association council and their wives from the office in The Strand. Mr. Francis Fowke was at that time the secretary of the Parent Body and though a total stranger to him had made his steps easy in London merely because he was a member of the Branch.

Dr. Kenny went on to say that in the early days quarterly meetings of the Branch were held at such places as the Vienna Café, and were followed by champagne suppers with cigars, though no cigarettes or pipes were allowed. Dr. T. N. Fitzgerald used to say that he enjoyed those meetings as much as he did an evening at the Melbourne Club. As honorary secretary, Dr. Kenny undertook the reporting, and contributed so largely to the *Intercolonial Medical Journal* that he was accused of monopolizing the space; he was convinced that full reports increased the attendances at the meetings. Having been a member for such a large number of years, with long service as office-bearer and councillor, Dr. Kenny was able to say confidently that the Association was essentially democratic, and above all things should appeal to general practitioners. If it did not do so, the fault was with the general practitioners, as every known method had been adopted to get them to attend the meetings. When it had been indicated that the evening surgery hours conflicted with the time at which the meetings were held, the hour of meeting had been varied and made either later or earlier. The meetings had never been attended as well as they might have been, though many could find a way to come if they really tried. It was customary for the hall to be packed on special occasions, if something likely to hurt the members was to be under discussion; but many members remained unaware of the immense amount of work done by the councillors. If the affairs of the Branch had been left to the general practitioners the Branch could not have survived. The Collins Street men had had to run it, and they had not run it for themselves. He had frequently heard the general practitioners' aspects of problems stressed when no general practitioner was present. A council member from Ballarat had not missed a meeting for five years, and he remembered men from Geelong and other country centres who never missed the meetings. If those men could come it did not seem right that others should attend only when there was some row on; it was noticeable that on those important occasions ignorance of the subject prevented many members from contributing helpfully to the debates. Dr. Kenny also considered that members did not read the medical journals sufficiently; and that instead of going around looking for grievances it was in the best interest of the Association for general practitioners to come to the meetings in large numbers and keep themselves well informed on all matters of importance to themselves and the Branch.

Dr. L. S. LATHAM expressed his appreciation of the address that had been prepared by Dr. Major, which

contained information that it was very desirable to have on record and was strikingly lacking in contentious or provocative matter. Dr. Latham commented that he too had been an honorary secretary of the Branch, like Dr. Norris, who had read the paper, Dr. Major, who had prepared it, and Dr. Kenny, who had opened the discussion. He remembered the meeting of the union of the Medical Society with the Victorian Branch, at which he was present, in the beginning of 1907. He had expected that Dr. Major's paper would have been critical, and felt that a great deal had been done in perfecting the machinery. There was vastly more council work nowadays, and it was done better than it was twenty-five years ago. The appointment of a chairman of council and the simplification of council procedure constituted what he regarded as the most substantial advance in enabling the work of the council to be carried on. If they took the time to consider whether the British Medical Association was all it might be, they would have to consider what leaders could be expected to accomplish in view of the democratic nature of things. He had seen the organization floundering under distress. They had to maintain the democratic habit and ascertain what was the common interest of the members. Medical men were individualists and should direct their minds to the question whether representation was properly attained. Dr. Latham thought it was; but it was desirable that they should get a force operating in the minds of individual members and in each of the separate subdivisions. Convocation could be successful only if the divisions were actively functioning and were well informed. The establishment of convocation was paralleled by the university body of the same name, which acted as a chamber of review of changes in legislation; the old senate, like the general meetings of the British Medical Association Branch, had been unsatisfactory chiefly because of the ever-shifting personnel. As at present constituted, the decisions of convocation would not be unquestionably reflective of the opinions of the subdivisions, because the subdivisions came into activity only when something touched them very nearly. On such occasions decisions reached might not be wise, on account of the heat and the closeness of interested parties, who were not capable of giving the matters due consideration from all angles. He distrusted *ad hoc* and intermittent activities. They still had to go to individual members of experience for sound judgements.

At that stage Dr. Latham remarked that as long ago as the time of Hippocrates a physician had been expected to die at the post of duty, to go to the plague or war though he died. They wanted a high-spirited, high-minded, generous outlook, the outlook of honourable gentlemen who were trustworthy. As the lecturer in ethics he had the opportunity to let the medical students know what to aspire to in the professional world into which they were entering. Some of the lads did not appear to realize the ideals of the relationship with their fellow practitioners and their patients, though there was nothing elaborate or recondite in what they had to be told. In the British Medical Association they could have the exclusiveness of a club and should get to know each other very well; then a lot of the ethical difficulties would not arise. The Association was there to help the members and sometimes to discipline them, with the object of suggesting to them that there were right ways of doing things.

In conclusion Dr. Latham said that he was glad that the local medical association was still British, and hoped that it would stay so; they should stand wholeheartedly in unity with the old association with England and should not do anything to make it possible for a hostile outsider to raise doubts concerning the question of loyalty to England.

Dr. VICTOR HURLEY said that he had thought that the paper would have touched on the discussion of the future relationship of the local Branch with the Parent Body. He had acted as Victoria's representative at the annual meeting of the British Medical Association held at Plymouth in 1938. He had seen the machinery at work and had been impressed with its efficiency and smoothness. The organization of their own local association was essentially democratic; but for that system to function effectively, informed individual opinion was essential. It

had been one of the greatest difficulties of the council that a large body of the members was totally uninformed on important matters that had to be handled by their representatives. Indeed it took two or three years for a newly appointed member of the council to become usefully informed. Dr. Hurley expressed the opinion that meetings of convocation should be developed to enable the informed views of representatives to be obtained. At the comparable gathering of the Representative Body in Plymouth at which he had been present, a large hall had been filled with some two or three hundred informed and instructed representatives, who had all discussed previously every item on the agenda. They had been able to go through an agenda paper of some two hundred items in three days, and each subject was presented clearly and was well debated. Efficient organization must be achieved in the subdivisions or electorates; it was not sufficient for council members only to be informed; they should be in close touch with the considered views of the members in the subdivisions, who must be well informed on the matters under discussion.

Dr. Hurley warmly advocated the maintenance of the relationship that existed between the Branch and the Parent Association. In England he had found that the executive officers and members generally were anxious to retain the present connexion and were prepared to make any reasonable concession or arrangement for which the local Branch might ask. Dr. Hurley was convinced that they could ask for as much autonomy as they wanted to manage their own affairs. The Australian Branches should manage their own affairs, and should be linked up with the Parent Body in a manner somewhat comparable with the political autonomy possessed by the dominions under the Statute of Westminster. He added that it was a necessary proviso that, if additional powers were given, the body in whom those powers were vested must have status and a definite legal entity. The Home officials favoured an enlargement of the powers and functions of a central controlling body, such as the Federal Council in Australia, to which the Branches would give sufficient power to act for the whole profession in Australia.

He said that there were two outstanding things to be done. One was the organization of a convocation in each Branch of informed representatives analogous to the annual representative meeting in England. The other was a central controlling body in the Commonwealth—the Federal Council—with the requisite powers. Those problems were not simple, in that in many of the matters affecting medical practice the States exercised control, and in others the Commonwealth. As instances he referred to the State control of hospitals and the Federal administration of quarantine services and national health insurance. He proceeded to discuss certain financial aspects of the problems. Owing to our own peculiar circumstances, the annual subscription of each member had to meet four separate commitments. One was the financing of the activities of the local Branch council, a second was the subsidy to be paid to the Federal organization, a third was the payment of £1 per member annually for *THE MEDICAL JOURNAL OF AUSTRALIA*, and a fourth was the annual payment of £1 5s. 6d. per member for *The British Medical Journal*. It was difficult to meet all of those commitments and to continue to keep the annual subscription reasonably low. It would help if they had a self-supporting medical journal. He was sure that the contribution of the Branches to the Federal organization was far too small for efficiency. It was the hope and firm belief of many members that the medical journal would not indefinitely require an annual subsidy of some £4,000 to maintain it; if that payment could be eased there would be less criticism of the £1 5s. 6d. per member for *The British Medical Journal*. The Home authorities insisted that every member of the Association must take *The British Medical Journal*, which was its medium of approach to members, and was one of the very few reservations they had to make. They had also insisted that they do not make any appreciable profit out of the Australasian members. It was not generally realized that it cost 14s. per member annually to post *The British Medical Journal* to the members. When to that amount was added the legitimate costs of production, the net profit was only 2s. per member.

In conclusion Dr. Hurley reiterated that there were important sentimental and practical reasons for maintaining the existing relationship between the Branches in Australia and the Home Association, particularly at the present time.

Dr. W. W. OSTERMEYER expressed his appreciation of what he described as an admirable historical résumé of the profession in Australia. He supported Dr. Hurley's stress on the value of convocation, but did not agree that the local organization was democratic; convocation could not convene itself; the council got it to rubber-stamp policy; and it did not meet annually. At all events there was no parliament in the Victorian Branch; members wanted at times to let off steam. He did not hold with the attitude that heat undermined wisdom and judgement, nor did he believe in ice-age wisdom; it was at best an emasculated kind of wisdom. He considered that there would be some discussion at the annual meeting of the Branch held each December if the balance sheet were presented then instead of in the following February. The *British Medical Journal* was used for the publication in advance of the agenda to be discussed at the annual representative meeting, and balance sheets also appeared. In Dr. Major's address Dr. Ostermeyer had noted that intimate meetings of the members had produced invaluable indirect effects in earlier years. Duplications and complications had arisen recently through different groupings of the members in colleges and university groups, the trend of which had been to detract from the importance and value of meetings of the Association.

Dr. COLIN MACDONALD said that he had enjoyed the meeting. It had been particularly pleasurable to listen to Dr. Kenny, who, in his courtly, gracious way, had given what to him was a fascinating study of medical history. After existing for two or three years the special section studying medical history had lapsed, but the members must not lose the lore and personality of the giants of the past. The writing of the archives had been commenced by the late Dr. Howard and the late Dr. Felix Meyer, and they had looked to Dr. Kenny to carry on the work. Many interesting facts were being lost as the years passed, and Dr. Macdonald urged the appointment of a standing committee for the collection and maintenance of medical history in the State. He would like to know the colour of the men who made the Association; like folk lore and folk songs, that information was of value and very great interest, and the time for its nurture was overdue.

Dr. J. NEWMAN MORRIS said that he had been stimulated by Dr. Macdonald's thoughts to contribute to the discussion. In the first place he would like to state that there was in existence a standing committee for the purpose of recording local medical history. They had endeavoured to get the late Dr. William Moore to write reminiscences. If they were not already members he would like to see the cooption of Dr. Kenny, Dr. Norris and Dr. Macdonald.

Directing the attention of those present to the painting in oils of the late Dr. Maund, Dr. Morris said that Dr. Maund was entitled to be regarded as the founder of THE MEDICAL JOURNAL OF AUSTRALIA, the Women's Hospital at Melbourne, and, through the Medical Society of Victoria, of the local Branch of the British Medical Association. He had been materially concerned in those foundations, though he had lived in Melbourne for only five years. Dr. Morris added that he had died of drinking the polluted water of the Yarra, and that the portrait had been painted posthumously by Chevalier; Dr. Fetherston had found it in the vaults of the State Picture Gallery and had rescued it to adorn the walls of the Medical Society Hall.

Dr. Morris went on to say that, real as the problems were to members at the present day, they were old as the hills and there was no new thing in medical politics, though the machinery should constantly be reviewed. He was, however, pessimistic about the project of getting the members, who were individualists at heart, to take sustained interest in the affairs of any organized body such as the Medical Association. He too had been charmed with the intimate and memorable reminiscences Dr. Kenny had given them that night, and he sincerely regretted the absence through illness of Dr. Major.

The President, after drawing attention to the smallness of the number of members present, and expressing the opinion that those who had stayed away had missed a great opportunity, asked Dr. Norris to close the discussion.

Dr. Norris thanked the members, on behalf of Dr. Major, for the way in which the paper had been received. He said that he had been proud of the opportunity to read it, and for him no subject was more fascinating than the history of a movement. If they knew their history better there would be less heat and worry about problems and activities. Records of the past were invaluable. The reminiscences of Dr. Fetherston would also be highly valued. He would like to see indelible records gathered of the personalities and activities of the men who contributed to the making of the Association. The theme that ran through the whole story was the humanity of medical men, whose aims had never varied. There was not a young society, but might be a firmer one if the archives were collected and studied.

MEDICO-POLITICAL.

A MEETING of the council of the South Australian Branch of the British Medical Association was held at 178, North Terrace, Adelaide, on June 6, 1939, Dr. M. ERICHSEN, the President, in the chair.

Appointment of Subcommittees.

The following subcommittees were appointed for the current year:

Scientific: Dr. P. T. S. Cherry, Dr. C. F. Drew, Dr. J. M. Dwyer, Dr. M. Erichsen, Dr. C. B. Sangster, Dr. R. J. Verco, Dr. L. A. Wilson.

Contract Practice: Dr. R. G. Burnard, Dr. P. T. S. Cherry, Dr. C. F. Drew, Dr. M. Erichsen, Dr. F. St. J. Poole, Dr. J. Riddell, Dr. D. M. Steele, Dr. A. F. Stokes, Dr. R. J. Verco.

Library: Dr. P. T. S. Cherry, Dr. J. M. Dwyer, Sir Henry Newland, Dr. C. B. Sangster.

Parliamentary Bills: Dr. P. T. S. Cherry, Dr. J. M. Dwyer, Dr. A. F. Stokes, Dr. R. J. Verco.

Revision of Rules: Sir Henry Newland (Dr. E. Britten Jones coopted), Dr. M. Erichsen.

Ethical: Dr. R. G. Burnard, Dr. P. T. S. Cherry, Dr. C. F. Drew, Dr. J. M. Dwyer, Dr. J. Riddell, Dr. A. F. Stokes, Dr. C. B. Sangster, Dr. R. J. Verco.

Medical Societies.

MELBOURNE PÆDIATRIC SOCIETY.

A MEETING of the Melbourne Pædiatric Society was held at the Children's Hospital, Carlton, on May 10, 1939, Dr. D. O. BROWN, the President, in the chair.

Pathological Exhibits.

Dr. REGINALD WEBSTER presented a specimen of adrenal tumour which had arisen in a female infant, who had died at the age of six months. The palpable tumour in the abdomen was so situated as to suggest a clinical diagnosis of Wilms's embryoma of the left kidney. At the autopsy no suprarenal gland was identifiable, but in the situation of the adrenal was a spheroidal-shaped tumour, approximately ten centimetres in diameter, displacing but not invading the kidney. The cut surface of the tumour, of a reddish-brown colour, was traversed by a few fibrous fasciculi and lines of yellow pigment. Despite the facts that the growth had not infiltrated the kidney and that

there were no apparent local or distant metastases, the macroscopic and microscopic features of this specimen had compelled Dr. Webster to regard it as a malignant neoplasm. Its particular interest lay in the fact that its histology was indicative of origin from the adrenal cortex; it was therefore technically a carcinoma, although perhaps a better idea of its microscopic features was conveyed by the term "malignant adenoma".

Dr. Webster said that in his experience cortical adrenal tumours occurring in childhood were very rare. Two or three years earlier he had been given an opportunity of examining a simple adenoma of the adrenal cortex which had arisen in a girl who was then a patient at the Queen Victoria Hospital and who had exhibited the sexual modification and virilism so closely identified with these tumours. He asked for information as to whether any degree of masculinity could be expected to display itself as the result of the presence of a cortical adrenal tumour in an infant aged six months. Dr. Webster understood that virilism was not an inevitable concomitant of adrenal cortical hyperplasia, and that in the growths which so profoundly modified the patient's sex physiology the hyperplastic adrenal cortical cells were possessed of a strong affinity for fuchsin. Such fuchsinophile reaction had been noted in certain cells of the anterior pituitary gland and the interstitial cells of the testis, and there was a strong suggestion that the elaboration of the masculinizing hormone was a function of the fuchsinophile cells.

Dr. Webster went on to say that cortical tumours of the adrenal were of less frequent occurrence in children than medullary growths. He had a text-book acquaintance only with the ganglioneuroma and the paraganglioma or chromaffinoma; but the more commonly occurring neuroblastoma had come within his experience on more than one occasion. The time at his disposal did not permit a discussion of neuroblastoma, of such interesting history, and for so long regarded as retro-peritoneal lymphosarcoma. The widespread bony metastases to which neuroblastoma was prone to give rise led to its appearance in case reports in the *Transactions of the Pathological Society of London*, in 1885, as "multiple sarcoma of the skeleton in a child". The work of J. H. Wright, published in 1910, elucidated the true nature of this tumour. The familiar clinical subdivision into "Hutchinson" and "Pepper" types rested on an insecure pathological basis, for with respect to their metastatic proclivities there was little to choose between right and left sided tumours of this nature.

Dr. Webster also discussed a specimen which he had secured *post mortem* from a female infant, aged nine months. The immediate cause of death was enterocolitis, and the anomaly in the urinary system exemplified by this specimen was discovered in the course of a routine autopsy. Something of the kind might perhaps have been suspected from the fact that the child had been under observation and treatment for several months by reason of chronic pyuria. In the specimen exhibited were an extremely dilated left ureter and apparently complete agenesis of the left kidney. The ureter, 1.5 centimetres in diameter, was dilated uniformly throughout its whole course, and the uretero-vesical orifice on the left side was patulous. On the right side the ureter was of normal size, and although the kidney had undergone compensatory hypertrophy there was no suggestion of hydronephrosis.

Dr. Webster said that he was never surprised to find a malformation in the urinary tract in the course of routine autopsy work among children. Such malformations underlay many chronic infections of the urinary system in childhood. Those present would perhaps remember that the anatomical basis of chronic pyuria had been discussed by Dr. Eric Price at a meeting of the society held in August, 1938. Also, in his recent very interesting paper on the aetiology of chronic nephritis in childhood, Dr. Henry Sinn had shown how frequently renal insufficiency with azotemia and ultimate uremia was to be referred to a congenital abnormality in the urinary system.

Dr. Webster further said that of all such congenital anomalies that of congenital hydroureter with associated hydronephrosis was the most perplexing. He had placed

a number of specimens illustrative of this condition on view. It was not always possible to demonstrate an apparently sufficient cause of obstruction to the urinary outflow, such as extreme phimosis, atresia of the urethra, congenital hypertrophy of the verumontanum, a cyst of the urethral mucosa or prostate gland, or a septum, a mucosal fold or valvular formation in the posterior portion of the urethra. The so-called congenital urethral valves occurred in males only; they were usually, but not invariably, closely related to the verumontanum. The condition of bilateral hydroureter occurred commonly in girls as well as in boys, and it not infrequently happened that patient search failed to reveal any cause of organic obstruction. The current hypothesis for the group in which there was no recognizable obstructive cause for the dilatation of the urinary tract referred such dilatation to neuro-muscular defect or achalasia of the vesico-urethral sphincter.

Since the publication of a paper by Ellis and Evans in *The Quarterly Journal of Medicine* in 1933, dilatations of the urinary tract and the deficiency of functioning renal tissue associated with them, either *ab initio* or as the result of the chronic infection which they facilitated, had assumed prominence in connexion with renal dwarfism. In the paper to which Dr. Webster had referred, 20 cases of renal dwarfism were reported, in 17 of which a *post mortem* examination was permitted. In 14 of the 17 subjects so studied dilatation of the whole or of part of the urinary tract was present. As the bladder was involved in all cases Ellis and Evans considered that the urinary retention, to which the dilatation was presumably due, must have resulted from obstruction below this level. In no instance was any obvious obstruction found, nor was any abnormality of the nervous system detected. The subject of dilatation of the bladder and ureters in childhood had been discussed by Poynton and Sheldon. Their conclusion from an investigation which they conducted at the Great Ormond Street Hospital was that most instances of dilatation of the bladder and ureters in childhood were referable to definite organic obstruction rather than to a primary disturbance of function.

Referring again to the specimen which had occasioned his remarks, Dr. Webster pointed out that the very dilated left ureter could never have been called upon to function. The association of absence of the kidney with the megaloureter suggested that this particular instance was explicable on an embryological basis. He understood that between the fourth and fifth months of intrauterine development the ureters were relatively large in calibre, and if their development was arrested at this stage they would appear after birth as congenital megaloureters. Dr. Webster believed that for this most recent example of enormous and unilateral dilatation of the ureter without demonstrable organic obstruction it was not necessary to invoke the theory of neuro-muscular incoordination, but that the condition exemplified in the specimen might reasonably be assigned to developmental perversity or to embryological aberration.

Dr. Webster's specimens were displayed under a system of flood lighting and included a group appropriate to the demonstrations by Dr. Raymond Hennessy and Dr. A. G. Villiers.¹ In this group were examples of corrosive stricture of the oesophagus, tracheo-oesophageal fistula, congenital occlusion of the oesophagus, thoracic stomach and diaphragmatic hernia.

Rat-Bite Fever.

Dr. MÖSTYN POWELL showed a boy, aged twelve years, who had appeared at the out-patient department in February, 1939. He said that eleven weeks earlier, while trying to catch a rat, he had received a scratch from either teeth or claws on the dorsum of the left foot. The lesion had been sufficiently slight to be disregarded by the boy's parents, and it had healed rapidly. After two weeks a tender swelling had appeared at the site of the lesion, which was incised by a medical man and fomented. No pus had been obtained, but the incision would not heal and had formed an ulcer about the size of a shilling, circular, punched out, with a granulomatous base. It had been

¹ The demonstrations of Dr. Hennessy and Dr. Villiers will be reported in a subsequent issue.

relatively painless, and attempts to cause it to heal had failed persistently. During that period the boy had been pale, puffy around the eyes, had had night sweats and feverishness, and had lost weight.

Though ambulatory on arrival at the hospital, the boy looked ill; there was an indolent, chancre-like ulcer on the foot. Dr. Powell showed on the screen a coloured picture of the leg and ulcer. He said that the boy's temperature was very slightly elevated and that the inguinal glands were enlarged, but that the spleen was not palpable. A partial reaction of the serum to the Wassermann test had been reported.

Dr. Powell said that the ulcer had been dressed with *Lotto Nigra*, and exposure to the sun was advised, because it was considered that excessive fomenting might have retarded healing. One injection of "Acetylarsan" (0.02 gramme) was given, and on that evening the boy's temperature rose to 40.6° C. (105° F.). Within a few days obvious improvement occurred; the patient was afebrile and the local lesion had healed within two weeks.

Dr. Powell drew attention to four points of special interest. The disease was due to a spirillum (*Spirillum minus*), infecting rats and cats and transferable through them to man. The initial lesion usually healed, and after an incubation period of between two and six weeks a localized swelling appeared which might ulcerate, especially if it was incised. Fever, typically relapsing in character, ensued at that stage. Without treatment the disease might continue for many months. It was often associated at the inception with a pinkish macular rash, which had, however, not been observed in the case under consideration. Glandular and splenic enlargement were usually described and the Wassermann reaction was often positive. The disease could be fatal.

The second point of interest was that the infection was supposed to be spread by a bite from the infected animal; but as conjunctivitis was a feature of the disease in rats, an infected claw could transmit the infection equally well. The third point mentioned by Dr. Powell was that it was easy to appreciate that the condition might go unrecognized. It had been suggested that certain cases of coastal fever described by Rolleston were really examples of rat-bite fever. It might also be noted that the term "cat-bite fever" might be applicable at times. Dr. Powell concluded by stating that arsenical preparations were regarded as specific, and that one or two injections usually sufficed to terminate the disease.

Dr. E. E. PRICE said that Dr. Powell's presentation of the case had reminded him of certain examples of chronic ulcer of the leg in his out-patient clinic, which seemed to take a very long time to heal with treatment by Unna's paste. None of the patients had volunteered the information that they had been bitten, but he was wondering whether their illness could be spirillary in origin.

Dr. D. O. BROWN, from the chair, thanked Dr. Powell for bringing the matter before the meeting, congratulated him on the excellent coloured pictures and asked him if he wished to add to what he had said.

Dr. Powell, in reply, said that in addition to the arsenical treatment he was satisfied that as the ulcer had earlier been over-fomented with "Lysol" solution, the applications of *Lotto Nigra* and the exposure to the sun had hastened the healing. With reference to Dr. Price's question concerning the diagnosis from chronic ulcer, Dr. Powell said that it was important to remember that characteristically the original bite or scratch in cases of spirillary infection was trivial, and actually healed quickly and was disregarded. Later a large, smooth, reddened tumour appeared at the site; if this was not incised it might not break down, but if it was incised it would ulcerate. In addition there was an associated general disturbance. The affection was undoubtedly rare; but as Dr. Powell had come across instances twice within eight months, he thought that it might not be so rare as was thought, and those present should be on the alert for examples in the future.

(To be continued.)

Correspondence.

ANÆSTHESIA FOR SPECIALIST NOSE AND THROAT SERVICES.

SIR: I read Dr. Orton's article on nose and throat anæsthesia with great interest. He is right when he says he will provoke criticism, and that entails discussion. On careful survey I find myself agreeing with very few of his opinions, and I think his use of some words is unfortunate.

One sentence is: "I found there was a marked prejudice amongst them in favour of local anæsthesia." Surely the profession as a whole weigh pros and cons and decide on what they think is best. There is one sense in which the word "prejudice" might be used, and that is in relation to the attitude of the public and of the older surgeons towards local anæsthesia, and in nearly all these cases they are ignorant of its use. He says: "that submucous resection of the septum has passed out of favour". Again, an operation is necessary or it is not. The word "favour" gives the impression of changes of fashion. Probably Dr. Orton does not mean this inference, but he gives it all the same.

He must have been unfortunate in approaching the specialists if he got the idea that they all dislike local anæsthesia. If they dislike it, then the only conclusion is that they do not do it properly. I do not propose to go into details, but the essential points of local anæsthesia are good premedication and plenty of time taken over administering the anæsthetic.

I consider that tonsillectomy under local anæsthesia is far more satisfactory than under general, and I find reactionary and secondary bleeding lessened and recovery greatly accelerated. I have never encountered a lung abscess after this operation, and patients invariably express surprise and delight at the little discomfort and after-pain. As for septal resection, I think that Dr. Orton will find nine out of ten specialists prefer local anæsthesia. For peritonsillar abscess opening I find that local anæsthesia can be satisfactorily given, and would consider it dangerous to give anything else, as the patient might inhale blood or pus. I have not much experience of bone operations under local anæsthesia, but those I have done were not satisfactory.

I entirely agree with Dr. Orton *re* pernasal intubation of the larynx, and would go further and say that no general anæsthetic should be given for a nose or throat operation without laryngeal intubation. Again I agree with his remarks on anæsthesia for chest conditions, when a general anæsthetic is necessary, which, in my experience, is rare.

This letter is very much on the critical side; but criticism is healthy for the profession, and if, as Dr. Orton suggests, a controversy is aroused, so much the better; some useful suggestions may be forthcoming.

Yours, etc.,

R. H. BETTINGTON.

185, Macquarie Street,
Sydney,
July 31, 1939.

CROHN'S DISEASE.

SIR: In the issue dated July 8, 1939, Dr. J. A. Arratt describes three cases under the heading of Crohn's disease, all recovering after appendicectomy. I have recently seen a similar case imitating acute appendicitis, in which the true condition was an acute ileitis affecting ten inches of ileum, the lower end of the much thickened ileum being a foot from the caecum. Symptoms had appeared a few hours earlier.

These cases do not agree with Crohn's description of regional ileitis as given by Hurst and Lintott, of Guy's

Hospital, save for the rather cynical remark that a recent appendicectomy scar is a frequent "physical sign" in Crohn's disease.

My case happened during a flush mushroom season, when there were several cases of colic and vomiting attributed by patients to the tasty fungus.

Crohn's disease is not cured by appendicectomy, but by wide resection of the affected ileum.

Yours, etc.,

K. ST. VINCENT WELCH.

Blayney,
New South Wales,
August 1, 1939.

Naval, Military and Air Force.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Number 50, of August 3, 1939.

AUSTRALIAN MILITARY FORCES.

Army Headquarters.

Major (Honorary Lieutenant-Colonel) C. H. Kellaway, M.C., is seconded from the Australian Army Medical Corps, 3rd Military District, and is appointed Director of Hygiene, 1st August, 1939, *vice* Lieutenant-Colonel C. R. Merrillees, who relinquishes the appointment on 31st July, 1939, and is transferred to the Unattached List, 1st August, 1939.

Australian Army Medical Corps (Permanent).

Major-General R. M. Downes, C.M.G., V.D., is reappointed Director-General of Medical Services for a period of four years with pay at the rate of £1,500 *per annum* (subject to variation in accordance with variation in the cost of living as though the rate of £1,500 *per annum* were prescribed in Military Financial Regulations) inclusive of all allowances except travelling, to date 20th August, 1939.

Second Military District.

Australian Army Medical Corps Reserve.

To be Honorary Captain—Mervyn Hetherington Thomas, 22nd May, 1939. (This cancels the notification respecting this officer which appeared in Executive Minute No. 186/1939, promulgated in *Commonwealth Gazette*, No. 41, of 29th June, 1939.)

Honorary Captain J. G. W. Hill is retired.

Third Military District.

Australian Army Medical Corps.

Major (Honorary Lieutenant-Colonel) C. H. Kellaway, M.C., is appointed from the Reserve of Officers (A.A.M.C.), 1st August, 1939.

Award of the Australian Efficiency Decoration.

Australian Army Medical Corps—Major M. Jacobs.

Fourth Military District.

Staff.

Major J. M. Dwyer, Australian Army Medical Corps, is appointed Assistant Director of Hygiene, District Base Headquarters, 1st September, 1939, *vice* Major J. E. Porter, M.M., who relinquishes the appointment on 31st August, 1939.

Australian Army Medical Corps.

Major J. E. Porter, M.M., is appointed to command the 6th Cavalry Field Ambulance and to be Lieutenant-Colonel, 1st September, 1939, *vice* Lieutenant-Colonel D. L. Barlow, M.C., E.D., who relinquishes the command on 31st August, 1939, and is transferred to the Unattached List, 1st September, 1939; Major E. H. Lewis is transferred to the Reserve of Officers (A.A.M.C.), 1st August, 1939.

Congresses.

CONGRESS OF THE AUSTRALIAN DENTAL ASSOCIATION.

THE tenth Australian Congress of the Australian Dental Association will commence in Melbourne on August 21, 1939.

The committee of congress invites members of the Victorian Branch of the British Medical Association to attend the opening ceremony in the Wilson Hall, University of Melbourne, at 11 a.m. on Monday, August 21. Entrée cards will not be required.

On application to the congress office, 193, Spring Street, Melbourne, C.I., members of the British Medical Association may obtain invitations to attend the following sessions of the Preventive and Juvenile Dentistry Section, to be held in the main theatre, Anatomy School, University of Melbourne.

Monday, August 21, 4 p.m. to 5 p.m.

Lecture, strip film and table clinic: "An Interpretation of the Nutritional Requirements of the Pre-School Child for Dental Health in Terms of Practical Diets", Miss B. Wilmot, B.Sc., Dip.Diet. (Melbourne).

Tuesday, August 22, 2 p.m.

A. Lecture and motion picture in natural colour: "The Cause and Prevention of Dental Caries", Dr. C. D. Hearman.

B. Lecture and discussion: "The Necessity for a Commonwealth-wide Coordinated Campaign to Prevent Dental Disease", Dr. K. F. Skues (Melbourne), Mr. C. B. Green (Melbourne), Mr. R. C. W. Gibson (Adelaide).

Obituary.

JOHN MACPHERSON.

WE regret to announce the death of Dr. John MacPherson, which occurred on August 5, 1939, at Woollahra, New South Wales.

Books Received.

THE STREPTOCOCCAL TENDENCY, by J. D. Hindley-Smith, M.A., B.Ch., M.R.C.S., L.R.C.P.; 1939. London: H. K. Lewis and Company Limited. Demy 8vo, pp. 36. Price: 1s. net.

SEXUAL FREEDOM, by R. Guyon, translated from the French by E. and C. Paul, with an introduction by N. Halre, Ch.M., M.B.; 1939. London: John Lane the Bodley Head Limited. Demy 8vo, pp. 358. Price: 15s. net.

MAY'S CHEMISTRY OF SYNTHETIC DRUGS: Fourth Edition, revised and rewritten by P. May, D.Sc., F.I.C., and G. M. Dyson, Ph.D., F.I.C., A.M.I.Chem.E.; 1939. London: Longmans, Green and Company Demy 8vo, pp. 382, with diagrams. Price: 21s. net.

CARDIOVASCULAR DISEASES: THEIR DIAGNOSIS AND TREATMENT, by D. Scherf, M.D., and L. J. Boyd, M.D., F.A.C.P.; 1939. London: J. and A. Churchill Limited. Demy 8vo, pp. 470. Price: 21s. net.

TRAINING FOR CHILDBIRTH FROM THE MOTHER'S POINT OF VIEW, by M. Randell, S.R.N., S.C.M., T.M.M.G.; 1939. London: J. and A. Churchill Limited. Foolscap 4to, pp. 165, with 118 illustrations. Price: 7s. 6d. net.

INFANT FEEDING, by V. L. Collins, M.D.; 1939. Melbourne: W. Ramsay (Surgical) Proprietary Limited. Demy 8vo, pp. 72.

HOW LIFE BEGAN: A SPECULATIVE STUDY IN MODERN BIOLOGY, by D. Forsyth, M.D., D.Sc., F.R.C.P.; 1939. London: W. Heinemann (Medical Books) Limited. Crown 8vo, pp. 117. Price: 5s. net.

THE STATE AND MEDICAL RESEARCH, by E. Mellanby, K.C.B., M.D., F.R.C.P., F.R.S., K.H.P.; The Harvelan Oration; 1939. Edinburgh: Oliver and Boyd. Demy 8vo, pp. 52. Price: 3s. 6d. net.

VARICOSE VEINS, by A. Ochsner, B.A., M.D., D.Sc., F.A.C.S., and H. Mohorner, B.A., M.D., M.S., F.A.C.S.; 1939. St. Louis: The C. V. Mosby Company; Australia, W. Ramsay Surgical Proprietary Limited. Super royal 8vo, pp. 147, with illustrations. Price: 18s. net.

Nominations and Elections.

THE undermentioned has applied for election as a member of the New South Wales Branch of the British Medical Association:

McGregor, Ross Alexander James, M.B., B.S., 1936 (Univ. Sydney), Ardlethan.

The undermentioned has applied for election as a member of the Victorian Branch of the British Medical Association:

Margullus, Martin, M.D., 1936 (Turin), 2, Fitzroy Street, St. Kilda, S.2.

The undermentioned have been elected members of the Victorian Branch of the British Medical Association:

Brand, Victor, M.B., B.S., 1937 (Univ. Melbourne), 124, Ruskin Street, Elwood, S.3.
Field, Edward Wolf, M.B., B.S., 1937 (Univ. Melbourne), c.o. Dr. Fitzpatrick, 69, French Street, Hamilton.
Curzon, Maurice (formerly Israel Czerchowski), M.D., 1936 (Genoa), 17, Lang Street, North Carlton, N.4.
Bottomley, Edward Eric, M.B., B.S., 1929 (Univ. Melbourne), High Street, Ashburton, E.13.

Diary for the Month.

AUG. 15.—New South Wales Branch, B.M.A.: Ethics Committee.
AUG. 16.—Western Australian Branch, B.M.A.: Branch.
AUG. 22.—New South Wales Branch, B.M.A.: Medical Politics Committee.
AUG. 23.—Victorian Branch, B.M.A.: Council.
AUG. 24.—New South Wales Branch, B.M.A.: Clinical Meeting.
AUG. 25.—Queensland Branch, B.M.A.: Council.
AUG. 31.—New South Wales Branch, B.M.A.: Branch.
AUG. 31.—South Australian Branch, B.M.A.: Branch.
SEPT. 1.—Queensland Branch, B.M.A.: Branch (Jackson Lecture).
SEPT. 5.—New South Wales Branch, B.M.A.: Organization and Science Committee.
SEPT. 6.—Victorian Branch, B.M.A.: Branch.
SEPT. 6.—Western Australian Branch, B.M.A.: Council.
SEPT. 7.—South Australian Branch, B.M.A.: Council.
SEPT. 8.—Queensland Branch, B.M.A.: Council.
SEPT. 12.—New South Wales Branch, B.M.A.: Executive and Finance Committee.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser", pages xviii-xx.

BRITISH MEDICAL AGENCY OF QUEENSLAND PROPRIETARY LIMITED: Medical Officer.

LIDCOMBE STATE HOSPITAL AND HOME, LIDCOMBE, NEW SOUTH WALES: Honorary Ear, Nose and Throat Surgeon.

QUEEN VICTORIA HOSPITAL, MELBOURNE, VICTORIA: Resident Medical Officer.

ROYAL AUSTRALIAN NAVY: Medical Officers.

ST. GEORGE DISTRICT HOSPITAL, KOGARAH, NEW SOUTH WALES: Resident Medical Officers.

THE WOMEN'S HOSPITAL, CROWN STREET, SYDNEY, NEW SOUTH WALES: Resident Medical Officers.

VICTORIAN EYE AND EAR HOSPITAL, MELBOURNE, VICTORIA: Resident Surgeons.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCHES.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 135, Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmmain United Friendly Societies' Dispensary. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company Limited. Phoenix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association, Proprietary Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. House, 235, Wickham Terrace, Brisbane, B.17.	Brisbane Associate Friendly Societies' Medical Institute. Proserpine District Hospital. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.
SOUTH AUSTRALIAN: Honorary Secretary, 178, North Terrace, Adelaide.	All Lodge appointments in South Australia. All Contract Practice Appointments in South Australia.
WESTERN AUSTRALIAN: Honorary Secretary, 205, Saint George's Terrace, Perth.	Willuna Hospital. All Contract Practice Appointments in Western Australia.

Editorial Notices.

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